Heritage of the Tamils

EDUCATION & VOCATION

Editors

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INTERNATIONAL INSTITUTE OF TAMIL STUDIES

Heritage of the Tamils - Education and Vocation

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Introduction

The International Institute of Tamil Studies had been constituted by Peraringar Dr. C. N. Annadurai, the former Chief-Minister of Tamil Nadu in the event of the successful conclusion of the Second World Tamil Conference held at Madras in 1968. One of the main purposes of this Institute is to impart knowledge to the people all over the world, about Tamil Language, Literature, Society, Culture, Civilization, Philosophy, Art and Architecture etc., With this broad progressive basis it has served for the past eleven years by arranging weekly, monthly and yearly seminars and publishing the research articles in printed form. Till now, about 125 research books have been published and out of them 23 are in English.

The proposed project of bringing out a number of Volumes on the Heritage of the Tamils is made possible through the holding of annual seminars. As we have to put before the world all these facts in the International language, these seminars are conducted in English and the proceedings of these seminars have been published already. Till now, we have conducted eight seminars in this series. They are,

1) Cultural Heritage of the Tamils (1978)
2) Literary Heritage of the Tamils (1978)
3) Language and Grammatical Heritage of the Tamils (1979)
4) Art and Architectural Heritage of the Tamils (1980)
5) Historical Heritage of the Tamils (1981)
6) Philosophical Heritage of the Tamils (1983)
7) Heritage of the Tamils—Siddha Medicine (1984)
8) Heritage of the Tamils-Temple Arts (1985)

In continuation of this project we proposed to have a Seminar on the Heritage of the Tamils-Education and Vocation to be held at the Institute between 21-3-1986 and 23-3-1986. Several eminent scholars who have specialised in different aspects of Education

and Vocation were invited to contribute articles to be presented in the Seminar. This year, due to some unavoidable circumstances we are unable to conduct the proposed seminar in time, but the papers are published now.

The ancient Tamils with a proper sense of education, spread it to all without any bias of religion, caste, creed, men and women. Eventhough there were some changes in the mediaeval period, Tamilnadu reigns supreme in the field of education even before and after Independence. It shows our best tradition also. Tamilnadu tops the list among other states in India, in teaching, free education, development of Teachers and proper planning of education. In addition, now they spend one fifth of the amount of total expenditure on educational development in the state. Educated people are the backbone in the scheme of proper development of Tamil nadu. Accepting this idea, the Government is also planning with the proper perspective.

It is said that today India is the third largest country of scientists and engineers in the world coming after the U. S. and Russia. Here the scientific and industrial strength of the Tamil people is also noteworthy. The intelligence of the Tamils has been appreciated throughout the world. We have this achievement to our credit while many of our people are still illiterate.

The Life of the ancient Tamils adhered to nature. The porfession and the people are classified on the basis of the five types of lands which are classified on the natural basis. Those who attained proficiency in architecture, sculpture, physiology etc., gave a helping hand to the development of the state by developing their profession. Their education and profession are the main reasons for the development of their civilized habits. We understand from history that the Tamils through many techniques earned enough money and also had contacts with foreign nations. We understood that the people of a particular region can only do a particular profession. But this does not restrict them from learning any art. They never made connection between education and profession and education and income. We can ascertain that everybody enjoyed the benefit of education.

It is important to note here that, illiteracy is one of the reasons for poverty prevailing in our states. Having understood this many national leaders strive for the universalization of education. The present Governments which also understand this drawback, make fruitful plans for the uprooting of the evil poverty through education. The growth of literacy or education makes for growth of industries in a country. The spreading of industrialization will further enhance the economic conditions of the people. This has been already understood by the ancient Tamils.

In short, the Tamils have paid a great attention to human development in the past, particularly in the field of education and vocation. They thought that the most renewable resource for a good nation is its human resource and hence they had taken good many steps to make the illiterates literate. They had attained superb skills in arts and crafts and ran many enterprises as their vocations. The life and teachings of the ancient Tamils would help us to work for a better development of human resources and will improve the present day situations. So, this year we have selected this topic i. e. Education and Vocation of the Tamils and in order to introduce this subject we are publishing these papers, thereby help the spread of the Heritage of the Tamils.

This compilation contains 34 articles on Education and Vocation, which comprehensively survey the subjects from early period to the present day. These papers have been carefully scrutinised, edited, in consultation with their authors wherever necessary, and are being now released in printed form.

The Editors are not responsible for the opinions or the language of the contributors. We have given full freedom to the contributors in selecting the topics and to express their thoughts in their own language and style.

At the beginning of every article, some of the main ideas of the article have been given as an abstract and in the words of the respective authors.

The contributors deserve to be congratulated on their attempt to introduce to the modern world, the Heritage of the Tamils particularly in the field of Education and Vocation.

It now remains for us to thank all those who have rendered us valuable help in getting the book ready for the press and have expedited its publication.

We are verymuch grateful to the Hon'ble Minister for Education Thiru. C. Aranganayagam, Chairman of our Institute, for all the encouragement.

We express our heart felt thanks to Dr. Avvai Natarajan, Secretary to the Government of Tamil Nadu—Department of Tamil Development and Culture, who always Co-operates in all the activities undertaken by this Institute.

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The Main Aims and Ideals of the Tamil Educational System

— *Dr. G. SUBRAMANIA PILLAY*

"The ancient Tamils had high regard for the education. They emphasised lifelong education not only for knowledge sake, but also for the sake of humanity. Tamil educational system helped to broaden the outlook of the individuals. The concept of education for internationalism is revealed by a popular Tamil poet Kanian Poonkuntranar as 'யாதும் ஊரே யாவரும் கேளிர்'. *Thus the ancient Tamils cultivated their Education with broadmindedness."*

AIMS OF EDUCATION

The aims of education varies from time to time and nation to nation depending upon the political, economic and social systems and the philosophy of life prevailing at the particular time. Consequently the curriculum, methods and appraisal must also be more or less different in different countries at different times. Changes in the ideals and values accepted by a society will call for corresponding change in the system of education. Therefore good aims of education are related to situations of life. Any organised system of education must meet the real situations of a community. As Aggarwal (1981) states that the aims must be inaccordance with the physical and social needs of the community. The intrinsic needs and activities of the child are closely related to the needs of the community. A child is not to be educated in vacoum. He is a member of the community.

Modern educators analyse the aims of education into a number of ways. Brubacher (1966) classified aims of education

into two, viz, i. Proximate aim and ii. Ultimate aim. According to him : 1. Health, 2. Command of the fundamental process notably the 3 R s, 3. Worthy home membership, 4. Vocation, 5. Civic functions, 6. Worthy use of leisure time, 7. Ethical character etc., come under proximate aim. To Herbert Spencer, a notable educationist of the ninteenth century, all the above come under one title known as complete living aim. It means that education given to an individual must help him to live a complete living with out any deficiency of any type.

Ultimate aim of education also differs from author to author. According to some, man is created to know reverence and to serve God. To them earn eternal life with 'Him' is the ultimate aim. Education should help to achieve this aim of self realisation. To some others, cultivation of intellect or acquiring of knowledge may be the ultimate aim of education. To Rousseau a naturalist thinker wanted 'To make a man' as the ultimate aim of education. To John Dewey, the Pragmatist, 'to grow' is the ultimate aim of education. His famous syllogism is that 'education is all one with life, that life is growth'.

Another way of analysing the aims of education is to classify it into individual aim and social aim of education. Those who advocate for the individual aim plead that education is for the individual. Its function being to enable the individual to survive and to liveout his complete life. Community exists for the individual not the individual to the community. Hence individual and not society, should be the centre of al educational efforts and activities.

On the other hand, protogonists of the social aims of education think that the state is an ideal metaphsical entity over and above the individual. The individual exists for the society. Therefore it is the state that should decide the aim, mode and type of education. But the present day educationists emphasis both individual and social aims of education. It is to be stated that the present day needs and demands were more and complex compared to the needs of the ancient

society. At that time they were simple and few. The process of production, comsumption, distribution and exchange was quite simple. Thus the educative needs also were simple and could be met by a process of education which was also simple. With this background, the aims and ideals of ancient Tamil educational system shall be enumerated in this paper. Before, we actually analyse the aims and ideals of ancient Tamil education, it is not out of place to have a brief discussion of the nature and quantum of education received by the ancient Tamils.

ANCIENT TAMIL EDUCATION

Literature is the only source to know about the ancient Tamil educational system. Tolkappium is the ancient book now available (300 B.C.). Tolkappium divided the Tamil books into two. One is original and the other is dependent.

வினையின் நீங்கி விளங்கிய அறிவின்
முனைவன் கண்டது முதல் நூலாகும்

(Tol. 1594)

வழியெனப் படுவது அதன் வழித்தாகும்

(Tol. 1595)

The above grammar given by Tolkappiar indicates the vast literary heritage that the Tamil education produced long back. As indicated by Panambaranar, Tolkappiar studied the earlier Tamil works in grammar and made his book. Therefore it is evident that a number of grammar works were in existence even before Tolkappium.

Tolkappium Cheyyuliyal, reveals about 30 types of Tamil literature formats available at that time. They included epics, minor literature, devotional hymes, battle hymes, folk lores, satire, elegy, proverbs, prose, etc., (Manicakam 1976). Cankam poetry as a whole excluding Tolkappium dates back to 200 A.D, comprised of 2381 verses written by about 473 different poets and ranging in length from three to 382 lines. As Shunmugham Pillai (1976) says each akam is a dramatic monologue, never spoken by a poet in the first person but by

a character in a narative context that is the part of the tradition itself. No character can be identified by name. Puram poetry deals with people in historical times moving in society with the affairs of states, wars and the lives of kings. It may embody feelings, but feelings are expressed in the context of social activity.

These 473 poets who wrote the available Cankam literature belonged to different places of Tamilnadu. They practised various vocations in life. They lived in different parts of Tamilnadu and in different times. They include the great kings of Chera, Chola, and Pandya kingdoms, their Quines, chieftains, the common men, the purohits, commercial people, farmers, yadavas, maravas, blacksmiths (Kollars), the bricklayers (Kottan) and others. The Cankam poetry speaks out different contents. They describe the abilities of the kings warfares, their success in wars, the philanthropic nature of their kings and chieftains, the significance of education, character and conduct, administration of kings, the Tamil civilization, the special features of maravar women, their love life, the five ways of Tamil life (ஐந்திணை ஒழுக்கங்கள்), the beauty of nature, the culture of Tamils, epic and puranic instances, historical glimpses some information about foreign countries with whom the Tamils had commercial contacts, etc., It is surprised to know that there were 50 women poets who have contributed the Cankam literature. (Athimanthiyar, Occur Masathiyar, Ovaiyar, Kakkaipadiniyar, etc.,) This could not be found in any other language of that time.

The classification of regions, aspects, of love, seasons, time of day, God, flowers. plants and trees, birds and animals, types of water, people and occupations found in the Akam literature of Cankam age indicates the fertility of imagery of the ancient Tamil system of education.

Various thinkers have defined the meaning of education. To Aristotole education is building a sound mind in a sound body. To Froebel, it is the unfoldment of what is enfolded in the child. To Gandhi education is the drawing out of the best in man - the body, mind and the spirit. To Vivekananda

education is the manifestation of the divine perfection already exists in man. But the meaning or definition given to education by a Tamil poet is equally creative and in a way better than other definitions. It says, when one works with others every body should be pleased with him, and when he happens to depart from their company others should feel for his missing. Thiruvalluvar says that the changes required for this kind of behaviour is the expected outcome of education.

> உவப்பத் தலைகூடி உள்ளப் பிரிதல்
> அனைத்தே புலவர் தொழில். (Kural. 394)

Till 19th century, the content of education in the western world was identified under Reading, Writing and Arthmetic, which was otherwise know as 3 R s. Actually reading and writing come under language and Arthmetic represents the other scientific knowledge. According to Tamil system the classification of content of education is only two, they are 'Enn and Ezhuthu'. The 3 R s is reduced to two and it is precise and gives the same connotation.

> எண்என்ப ஏனை எழுத்தென்ப இவ்விரண்டும்
> கண்என்ப வாழும் உயிர்க்கு. (Kural. 392)

The significance of education is felt and emphasised by different Cankam poets. The ancient Tamils had high regard for education and the educated. Instances have been noticed in the literature when even the kings praised the educated.

KNOWLEDGE AIM

Both Bacon and Comenius wanted 'all knowledge for all'. Socretes said 'knowledge is power' by which things are done. For Thiruvalluvar knowledge is the instrument that prevents destruction. (Kural. 427). Irrespective of the versions that you hear about anything ultimately it is ones knowledge that helps in the comprehension of the real truth in it (Kural. 423). One who possesses knowledge is possessing all prosperities (Kural. 430). Only the educated can be considered as having two eyes. For others the eyes are like two wounds (Kural. 393).

There is knowledge explosion in all disciplines. The rate of accumulation of new knowledge is so fast that one is not in a position to master all the information explored. After learning more and more one realises his own ignorance of not knowing many things. But this concept is felt by the Tamils even before 2000 years and beautifully expressed by them.

'கற்றது கைம்மண்ணளவு, கல்லாதது உலகளவு'

So says Ovaiyar. Thiruvalluver expresses the same views. He says that,

'அறிதொறும் அறியாமை கண்டற்றால்'

(Kural. 1110)

Separation from wife would be a difficult job for the husband. As per Tamil culture there were four duties for which the husband must leave his wife for extended periods of time. They are for earning wealth, education, fighting a war, and serving as an ambassodar for the king. Separation for the cause of education can last for upto three years but for other reasons it can last only one year (Shunmugham pillai, 1976) For commercial contact the ancient Tamils went to Greek, Rome, China, Burma, Malaya, etc., Goods were taken by sea route to other countries. The system of education they received helped them in acquiring the necessary knowledge and skills for going over to other countries and doing business with them. From the above it is understood that the Tamil system of education gave importance to seeking of knowledge as its main aim.

ETHICAL DEVELOPMENT

One of the aims of ancient Tamil system of education was ethical development. Many evidences are found in Tamil literature emphasising ethics. The idealistic principles of Thiruvalluvar rightly points out the ethical viewpoints of ancient Tamils. According to him the evil behaviours like jealousy, desire, anger, harsh-words, etc., should be avoided and citizenship characteristics shall be developed among individuals.

அழுக்காறு அவாவெகுளி இன்னாச்சொல் நான்கும்
இழுக்கா இயன்றது அறம்.

(Kural. 35)

Keeping ones mother in hunger, because of poverty, is the most deplorable act on the part of a matured son. Even in such a situation the son shall not commit any act which is not acceptable to the learned (சான்றோர்). What a wonderful ethical idea taught by Valluvar long ago!

ஈன்றாள் பசிகாண்பா னாயினும் செய்யற்க
சான்றோர் பழிக்கும் வினை.

(Kural. 656)

The importance given for ethics in Tamil system of education is noticed from the fact that large number of books were written completely on ethics. For example 11 out of 18 of the Pathinenkilkanakku anthology are on pure ethics. Not only in later literature, but in ancient Cankam literature also ethic is insisted. Kalithokai, one of the Akam literature has enumerated the ethical principles like the following,

ஆற்றுதல் என்பதுஒன்று அலந்தவர்க்கு உதவுதல்
போற்றுதல் என்பது புணர்ந்தாரைப் பிரியாமை
பண்பெனப் படுவது பாடறிந்து ஒழுகுதல்
அன்பெனப் படுவது தன்கிளை செறாஅமை
அறிவெனப் படுவது பேதையர்சொல் நோன்றல்
செறிவெனப் படுவது கூறியது மறாஅமை
நிறையெனப் படுவது மறைபிறர் அறியாமை
முறையெனப் படுவது கண்ணோடாது உயிர்வௌவல்
குறையெனப் படுவது போற்றாரைப் பொறுத்தல்

(Kalithoki, 133. 6—14)

Purananooru poem 195 defines ethical conduct as,

'நல்லன செய்தல் ஆற்றீ ராயினும்
அல்லன செய்தல் ஓம்புமின்'

meaning even if you could not do any good to any one, it does not matter, but don't do any harm to others.

The world is capable of having seven leaders in a single day. Therefore no king or kingdom is everlasting. Renounciation of affection and attachment is the only way to achieve eternal bliss. Thus advised poets to several kings (Puram 358, 359, 360). Renounciation of worldly life was aimed at by the early Tamils. But there is a difference in Tamils approach compared to the vedic renounciation of life. From Thirukkural, it is observed that renounciation is not the throwing away of woman or family or social life and responsibilities. It is the renouncing of self interest for the sake of service to others. The same way, thavam or penance in Tamil tradition does not mean the magical or miraculous selfish power as known in religion today. It is loving self sacrifice for others (Appadurai, 1979).

CULTURAL DEVELOPMENT

Cultural development was considered to be an important aspect of Tamil educational system. As Appadurai (1976) puts it that Tamil civilization is remarkable for its planned basis in almost every facet of culture as well as walk of life. Ancient Tamil cities like Madurai are everstanding monuments of this spirit of planning in Tamil tradition and culture.

Kurunthokai reveals a number of cultural aspects of Tamil life. Work is life for them (135), the wealth of an individual should be useful to others (143), spending from the ancestral wealth without earning himself will not be considered as richness (283). The hiding out of things which they know was not in practice among the learned ancient Tamils (184). The learned people if praised by others would feel shy. But they would not tolerats the ills spoken on them (252).

The ancient Tamils believed in the rebirth. They also believed that if one does not have a child will take rebirth other than human being. Women liked to have their husbands in all the lives. Natrinai verse 397 describes how a lady worried on the demise of her husband. She says that she was not worried for the death of her husband. But she was worried because of having no issues through him she was likely to take rebirth other than humane. In that case if she happened to forget

her husband, how she would tolerate that. See the beauty of her statement.

DEVELOPMENT OF FINE ARTS

One of the other aims of Tamil systems of education was to know the different fine arts and to practise them for leisure and pastime. Sculpture was studied and practised in the ancient Tamil country. Music of different types, dancing, drawing, painting, drama were practised. Panar, koothar, Virali, their songs and activities are mentioned in the Tamil literatures. The detailed descriptions about how they studied, practised and lived on these fine arts, etc., are found in them (Attrupadai works). Each of the different types of Tamil poetry like Venba, Asiriappa, Kalippa and Vanchippa has different poetic rhythms like Cheppalosai, Agavlosai, etc., When a poem is composed it should bring out the particular rhythm. Music played a key role in the ancient Tamil system of education. A number of books such as Perunarai, Perunguruku, Deva Irudi, Pancha Bharathiyam, etc., which dealt with music and its learning have been destroyed in course of time by white ants.

Drama was considered to be the third part of Tamil literature. Koothu, drama, etc., were originally practised along with dance. The histories of great kings were dramatised besides their life history being written as epics by poets. The whole of the epic Silappathikaram is an embodiment of all these fine arts.

INTERNATIONALISM

Parochialism and narrow mindedness are evils which prevent the progress of humanity. Tamil educational system helped to broaden the outlook of the individuals. Thiruvalluvar says that educated, easily adapt with the new situation. For them regions and nations are no bar. They freely move from one place to another without any hitch or hindrance.

'யாதானும் நாடாமல் ஊராமால்'

(Kural. 397)

and Thiruvalluvar demands education for all and at all ages. The concept of education for internationalism is revealed by the popular poem written by Kanian Poonkuntranar,

'யாதும் ஊரே யாவரும் கேளிர்'

(Puram. 192)

Education cultivated broadmindedness among the ancient Tamils. A prayer to Lord Muruga runs like the following,

'யாம் இரப்பவை
பொருளும் பொன்னும் போகமும் அல்ல, நின்பால்
அருளும் அன்பும் அறனும் மூன்றும்
உருள் இணர்க் கடம்பின் ஒலி தாராயே'

(Paripadal. 5, 78-81)

The Cankam poet prayed the Almighty only to give him, dharmam, love and kindness to others. He is not praying to give him wealth gold or other wordly enjoyments.

LIFELONG EDUCATION

The concept of life long education is accepted now. The different nonformal systems of present day education, such as, evening colleges, correspondence courses, open universities, own time courses, television courses, etc., help in achieving the life long education. The significance of this life long education is felt by the ancient Tamils. In verse 397, Thiruvalluvar insists on 'சாந்துணையும் கற்றல்' which is none other than life long education.

LITERARY APPRECIATION

Education during ancient period was received for literary appreciation. So many instances are found in Cankam literature which offer just pleasure. To quote an illustration a poet is describing the verocity of love. He narrates the feeling like the following.

On a rock some butter is kept. A dump and orthopaedically handicapped man who could not move, was asked to keep

an eye on it. After some time, because of the heat of the sun the butter started melting. The man who is watching it could not remove it because he is lame. He could not call others for help because he is dump. Only he could watch the butter melting. Similarly the lover could neither tolerate the effect of the love nor could reveal it to others and ask for any help.

'கைஇல் ஊமன் கண்ணில் காக்கும்
வெண்ணெய் உணங்கல் போலப்
பரந்தன்று இந்நோய் நோன்று கொளற்கு அரிதே'

(Kurunthokai. 58, 4-6)

A number of such instances can be quoted from Tamil literature.

OTHER IDEALS

The learned had the courage of even correcting the kings when they attempted to do unjust. The poet Kovurkizhar avoided a war between the choles by giving advice to them, (Purananooru. 44). Similarly, purananooru poems 47, 95, 165, 13, 184, 35 describe the advices and corrections made by the poets. From purananooru it is understood that the ancient Tamil educational system had produced not only poets who adviced the kings but also the people who had the courage to indicate what is just to the kings.

For example,

'கடுஞ்சினத்த கொல்களிறும், கதழ்பரிய கலிமாவும்'
நெடுங்கொடிய நிமிர்தேரும், நெஞ்சுடைய புகல்மறவரும் என
நான்குடன் மாண்ட தாயினும் மாண்ட
அறநெறி முதற்றே அரசின் கொற்றம்'

(Puram. 55)

The kings considered it as insult or infame if the learned poets did not mention them in their poems. This indicates how much reputation the educated had at that time. In Purananooru the pandian king wrote the following,

'ஓங்கிய சிறப்பின் உயர்ந்த கேள்வி
மாங்குடி மருதன் தலைவ னாக உலகமொடு
நிலைஇய பலர்புகழ் சிறப்பின் புலவர் பாடாது
வரைக என் நிலவரை' (Puram. 72. 13-16)

It reveals the love and friendship and attachment the king had for the poets and their writing.

The pragmatic view of modern education emphasise the social development of the individual. To live a good life one should have social adjustment. Education must help him to achieve this ability. This idea is found in Thirukural.

'உலகத்தோ டொட்ட ஒழுகல் பலகற்றும்
கல்லார் அறிவிலா தார்' (Kural. 140)

Illustrations for the different virtues and ideals emphasised in the ancient Tamil system of education as revealed by Tamil literature are deliberately avoided in order to minimise the length of the present paper.

CONCLUSION

From the above discussion it is found that the ancient Tamils were aware of the significance of education. They had high regard for the education. They received education not only for knowledge sake, but also for the reasons of culture, civilization, commerce, leisure and pastime. They emphasised lifelong education. Besides, it could also be observed from Tamil literature that the Tamil system of education developed different ideals like, justice, prudence, veracity, gratitude, liberality, affability, piety, fortitude, active courage, magnanimity, magnificience, perseverance, nationalism, leadership, love and friendship, service, universalism, honesty, discipline, truth, beauty and goodness. Though the forms and span of ancient Tamil educational system, their curiculum and techniques of teaching of appraisal and evaluatory process were not known, the emphasis that the ancient Tamil educational system gave for knowledge, culture and character development and through that for a complete living is evident from the available literature.

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And other Tamil literatures Quoted.

Education of the Sangam Tamils

— *Dr. R. VENKATARAMAN*

"Mathematics and language were considered the two eyes of the learned in Sangam age. Astronomy being the summation of a host of other sciences, the Sangam astronomy certainly indicates the existence of science education in those days. The description of many cities in the Sangam literature shows that there existed a developed engineering and architectural skill. Though notions like universal education and universal literacy are essentially modern, the ancient Tamils knew the need of certain basic education, as different from scholarship, for getting on well with others. Social education aimed at the inculcation of good manners and social etiquette and the home was the best training ground for these. Thus, education was secular and it was not peculiar preserve of any particular caste or community".

'The Tamil society of the Sangam age was an advanced and civilized society, which had reached great heights in commercial prosperity and in the field of the fine arts...'[1] During this period Tamil learning had developed vastly judged from the number of works extant. However, a study of this society shows that education was not formalized or institutionalized. Teaching does not seem to have developed into a separate or distinct profession. Probably parental upbringing constituted the full education, because education was mostly a training in the hereditary vocation. If so, learning was not separated from doing and the family was an agency of education. Besides this, the elders in the immediate social environment also influenced the moral and intellectual growth of the youths. The pattern of education was

1. N. Subrahmanian, *Sangam Polity*, Madurai, 1980, p. 337.

not merely reading and understanding books, but listening to learned persons.[2]

The uniqueness of the Tamil culture was affected by the inflow of the exotic groups-the Brahmins, the Buddhists and the Jains, all from the North. Their influence became very much perceptive during the period of the Pallavas (600 A.D-850 A.D) who were enthusiastic pro-sanskritists. So the indigenous way of life was affected by the interaction with these new influences that brought in new ideas. The broad and receptive mind of the Tamils, echoed in the saying 'Every place is our place and everybody is our next of kin'[3], welcomed these new ideas. As a result the Tamil religion and society underwent a marked change. There was a gradual de-secularization of the Tamils and an inculcation of a religious fervour unknown to the Sangam age.

Due to these changes, certain new developments were noticeable in the sphere of education on account of the new philosophy of life. While the influence of the home persisted on education, certain new agencies of education began to develop. Probably the heterodox cults provided scope for free mobility among the communities. A merchant or grocer like Seethalai Sāthanār could study literature under a teacher and become a poet of high order. Many of the late sangam authors were members of professional communities. They attained scholarship to the extent of distinguishing themselves as sangam poets. Among the new agencies of education mention must be made of the Jain monks, the Bhuddhist monks and the Brahmin priests. The teachers were called āsān or āsiriyan. Probably same kind of a *gurukula* system developed then.

Education had been most ideally integrated to life needs. As mentioned, with the advent of the exotic influence domestic system in education yielded place to institutionalization of education. Different agencies, mentioned above, concerned themselves with the imparting of education.

Though from the Tolkāppiyam we learn that Tamil Literature had attained high degree of development, it seems that

2. Kural, Chapter on 'Kalvi', also see *Ibid.*, p. 337.
3. Puranānūru .192

till the emergence of the didactic literature (included in the Padinen kīl kanakku) poetry and grammer formed the subject matter of the Tamil education. Only afterwards regular instruction in didactic works might have been included in the course, in Tamil. Thus, before the emergence of the Pallava empire grammer and didactic text books constituted the main courses of education and there were many text books available for this purpose.

Mathematics and language were considered the two eyes of the learned (எண்ணும் எழுத்தும் கண்ணெனத்தகும்) Eṇ was number and eḷuttu was writing. Evidences of the knowledge and application of the numbers and fractions are found in every work of early Tamil literature. The concept of measurement of time, distance and the calculation of the weights of different articles had developed to a high degree. There was a Gaṇitha nūl[4] in those days , now lost. The Purananūru has references to astronomical knowledge.[5] The sangam Tamils called the stars as mīn and the planets as kōl[6]. The astronomer was called kaṉiyan[7]. So a few teachers of astronomy of the sangam age could be identified by the 'kaṉiyan' prefix. The chief among them was Kaṉiyan Pūngunranār.

Another was Kūḍalur kiḷār (Puram : 229). Puram mentions Arundhati as Vaḍa mīn or Northern star. Probably the 'Mūlam' star was very popular in those days as evidenced by the names of Avūr Mūlam Kiḷār and Aiyūr Mūlam Kiḷār. Silappadikāram also gives some astronomical data for the day when Madurai was burnt by Kannagi's anger. Astronomy being the summation of a host of other sciences, the Sangam astronomy certainly indicates the existence of science education in those days.

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4. Referred to in the commentary on Purananuru, v. 229, see Purananūru, U. V. S. Iyer, ed 1963, p. 401.
5. *Puram,* v. 229.
6. *Puram,* v. 109, 129, 270 and 397.
7. Vide, Puraporul Venbā Mālai, v. 174. It is a late work which says the kaniyan makes prodictions on the basis of astronomical calculations.

The description of many cities in the Sangam literature shows that there existed a developed engineering and architectural skill. The Paṭṭinappālai and the Silappadikāram contain description of the lay-out of the city of Puhār and its architecture. Likewise Madurai is described in the Maduraikkāñchi.

Knowledge of Medicine too had attained a high degree. We have the names of Maruttuvan Dāmodaranār and Maruttuvan Nallaccutanār.[8] Probably they were doctors, and taught medicine to others too.

Though no separate treatise is available on politics and administration, Kuṟaḷ elaborately refers to the qualifications and duties of the rulers and ministers. Kuṟaḷ, being encyclopedic in its content, certainly formed part of the education of the ancient Tamils. And any society can be proud of such a treatise and its salubrious impact.

We have a fairly good picture of the condition of music and dance and also their education from Silappadikāram.[9] Paripāḍal also gives very interesting details about music. The early Tamils used kuḷal (flute), yāḷ (lute) and many percussion instruments,[10] among which *tannumai* was probably the forerunner of 'mirudangam.' To handle them proper education or training is essential and it was probably hereditary. Kuḷalāsiriyan and Yāl Asiriyan were members of distinct communities practicing these instrument and teaching them in a system of hereditary education. They had great knowledge of tālam or layam, which they called isai aḷavu or *isai nirai.*[11] Music concerts were given in large halls specially erected with acoustic properties.[12] There

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8. Their verses are formed in the Paripāḍal
9. The whole of 'Arangēṟṟukkādai' is a treatise in music and dance.
10. e. g. Aripparai, Sakkattupparai, Siruparai, Serupparai, Tadarip-parai, Neydarparai, Porparai, Manarparai are referred to in Silampu, Arangerrukkadai.
11. *Paripadal,* 10.1.24.
12. *Manimekalai,* 11 : 13, v. 9.

had been many music texts which are now lost,[13] but from which only excerpts have survived in the Adiyarkkunallār commentary for Silappadikaram. The intricate techniques of Tamil music described in Silappadikāram, 'kanal vari' shows that a high standard of musical education should have prevailed in those days. It is certain that the later day Paṇṇs of Tevaram and Prabandam were based on the Sangam music.

Similarly, painting and sculpture, called 'oviyam' and 'cittiram' respectively had reached a high level and there were distinct communities of painters called oviyar kudi (Colony of painters). Possibly a text called oviyanūl,[14] was very popular as a text book on painting. However none of the treatises of these days on painting and sculpture is extant. The huge palaces of Madurai and Puhar had sculptures. In the commentary on Maduraikkāñchi and Nedunalvādai there is a reference to a Sirpanūl.[15]

The Tamil Academy (sangam) was a unique educational phenomenon of the classical age. Producing the greatest masterpieces of Tamil literature containing the most progressive thinking, this age must have had an advanced education system. Though not an institutionalized one, as already mentioned, it must have been a hereditary system.

It was an academy of scholars, who were great poets, critics and teachers of the highest calibre. It was an institutionalized approach for discussion and improvement. To be a member of it was the highest honour. It was cosmopolitan in its outlook where only merit and not birth or rank was the basic criterion of membership. Women also figure among its members. Different systems of thought and knowledge were fostered by the sangam scholars and their disciples. Tolkāppiyar carried on the Agattiyar tradition and Tolkappiyam's influence

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13. e.g., Perunārai, Perunguruhu, Isai Nuṅukkam, Indira Kālīyam and Bharta Senapatiyam, Fortunately Pañca *Marabu* is found recently.
14. See Silappadikaram Commentary, U. V. S. Iyer, ed., 1960, p. 230.
15. See Pattuppāṭṭu, U. V. S. Iyer, ed., 1961, p. 414.

is reflected even in the works of the later chola period like Nannūl.

An analysis of the sangam works show that the academic freedom is the hall mark of that age. The subject matter of enquiry was not dictated by the patron, the king. Its products are not only non-denominational but also most democratic. Men of different walks of life—artisans, traders, physicians, agriculturists etc.,—united into an intellectual fraternity and it was an epoch of individual teachers. The prefixes of the names of many poets show that they were teachers. Thus prefixes like Āsiriyar, Pālāsiriyar, Iḷam pālāsiriyar, Āsan, Kulapati, Bodiyār, Ñāni or ōdal Ñāni, Kaṇakkār, Kaṇakkāyar, Kaṇiyan, etc., show that they were teachers. Nakkirar, the famous commentator on Iraiyanar's Kalaviyal was one of the greatest individual teachers known to ancient Tamil country. He was the son of Madurai Kaṇakkāyaṇār. He taught this commentary to his son Kīran Korranār, who taught it to Tenūr kiḻār. Then follows a succession of disciples, the tenth in this order being Musiri Āsiriyar Nīla-kaṇṭaṇār. Thus there was a succession of disciples, each one was a teacher to the next generation. Nakkirār belongs to this galaxy of individual teachers peculiar to the Sangam period. Kidangil Kulapati Nakkaṇṇanar[16] was another teacher. The term 'Kulapati' can be taken to mean the head of an educational institution. Madurai Āsiriyar Nallanduvanār was such a renowned scholar teacher that a verse from him was deemed a matter of honour to the subject of the verse. The Ahanānūru (v. 59) says that Tirupparankunram's sanctity increased by the circumstance of the Asiriyar composing a song on it. Vēl Āsān, Mukkal Āsan Nalveḷḷaiyār,[17] Āsiriyar Kōdan Koṟṟan,[18] Āsiriyar Perun-kaṇṇan,[19] Palasiriyar Naṟṟamaṇar,[20] were some of the great teachers of the sangam age as their names show.

There were great dance teachers too, and this can be rightly inferred from the suffix kūttan after one's name. Thus

16. See Kuruntogai, v. 252. This is his only extant verse.
17. *Narrinai,* 272
18. *Kuruntogai,* 144
19. *Ibid.,* 239.
20. *Aham,* 92

Madurai kūttanār,[21] Vembattur kaṇṇan kūttanar.[22] Uraiyār Mudu kūttanár,[23] were great dancers and teachers of that art. The term *mudu* (in mudu kūttanar) shows the teacher's status as a veteran in that art. The authors of Paripādal seem to be great musicologists as these verses are set to music.

Though notions like universal education and universal literacy are essentially modern, the anicent tamils knew the need of certain basic education, as different from scholarship, for getting on well with others. So besides reading books,[24] listening to learned persons[25] was much emphasised. This is what is meant by Kuṟaḷ when it speaks of the absolute need for education. It warns of the dangers of illiteracy in atleast thirty verses. 'Though Parimelalagar narrowly interprets these verse as being addressed to kings, there is no internal evidence or even hint in the Kuṟaḷ verses to show that the verses were intended exclusively for kings'.[26] These verses show how Valluvar aimed at a general social education as a means of building an ideal society. For him i) 'education sheds light where there is darkness' and the uneducated are blind; and ii) education is the attainment of mental and moral perfection through knowledge and association with perfect men.[27] Thus Tiruvalluvar represents the summation of the best in the tradition of Tamil education. At a time when the exotic value systems began to flow in a large scale, it was he who upheld the Tamilian value system casting it in a mould in consonance with the time spirit.

Social education aimed at the inculcation of good manners and social etiquette and the home was the best training ground

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21. *Aham*, 334.
22. *Kuruntogai*, 362.
23. *Puram*; 331, *Aham*; 137, Narr. 58, Kurun; 310. It is said that he had specialized in both Āriyakkuttu and Tamilkkūttu
24. Kural, chapter on 'Kalvi'
25. *Ibid.*
26. N. Subrahmanian, *Sangam Polity*. (1930), p. 337.
27. See his chapters on kalvi, kallamai' kelvi, Ariomdamair in porutpāl.

for these. Besides home, certain institutions also had been developed as an integral part of the society through which the masses secured an improvement of their mind. Some of these institutions are as follows: i) *Feasts and festivals*: Being co-operative projects in which number of professional communities interacted,[28] feasts and festivals constituted a significant learning set-up for the masses.

ii. Pāṉars (wandering minstrels): This institution combining entertainment and education,[29] served as an agency of spreading social education. The Pāṉars enjoyed certain special privileges in society including the right of direct access to the kings. They were a compact community developing their professional competence with a domestic pattern of education. Among them some were Isaippāṉar (vocalists) and others Yālppāṉar (lute players). They travelled far and wide which enriched their knowledge by means of new experiences. They transmitted this knowledge through their songs.

iii. *Virali*: The institution of *virali* was complementary to that of Pāṉar. Being highly respected family women they played a very useful social role.[30]

iv. *Proverbs and Stories*: These were also effective techniques of social education. The Palamoḻi Nārpadu is an anthology of proverbs. Through stories like Silappadikāram and Manimēkalai high ideas of art and philosophy were communicated.

v. *Dances*: Dances were also techniques of social education. There were eleven typs of dances, each one being associated with one god or another. Some of them are as follows: The Pāṇḍaraṅgam (Siva's Tripurasamhāra dance), the koḍukoṭṭi (by Siva and Parvati), Alliyam (Krishna dancing after breaking the

28. e.g., "Kadal Deiva viḻā" in *Silappadikaram*, (kadaladu kāthai), "Pāvai viḻā" in *Puram*, *Aham* and Paripadal, "Indira viḻā" in *Silappadikaram*, and so on.

29. *Aham*: 314, 331, *Aink*: 1, 47, 48, 131.

30. *Aham*: 352-355; *Puram*: 32-34; *Tol*: 'Porul': 91-93. They are not to be confused with dancing girls.

tusk of Kamsa's elephant), Kuḍakkūttu (by krishna on pots), Tudi (by Muruga in sea after subduing the Aśura), Pāvaikkūttu (by Lakshmi assuming the form of kottippāvai to enchant the asuras).

Conclusion

The extant literature does not account for all the poems produced during the Sangam age. Even with the available works one can construct a fairly dependable picture of the standard of attainment of that age, of which anyone will legitimately be proud. Education was secular and it was not peculiar preserve of any particular caste or community. There were great learned women scholars too. From the available corpus of Sangam literature we can see twenty seven women poets figuring among the Sangam luminaries. Avvaiyār was certainly the greatest among them with her versatality. Like Tolkāppiyam on grammar, the great poetess Kākkaippāḍiniyār's Kākkaippāḍiniyam was a standard text on poetics to be studied by the Sangam students. All these advanced secular and aesthetic achievements of the age vouch for the high pitch of excellence reached by the Sangam society. This was possible by a high level of education only.

Education among the Tamils as Gleaned from the 18 Kilkkanakku Works

Prof. N. SUBRAMANIAN

"The democratic principle of distinguishing persons only by their accomplishments and never by adventitious factors like community born in is often mentioned in many of the texts, particularly the Kural and the Naladiyar. Lack of literacy was felt as a shameful deficiency; even wealth and power could be no substitute for it."

The historian can hope to get some idea of the social life of the Tamils of the Sangam age only through a mass of Tamil literature commonly known as the Sangam literature. That period is poorly lighted by epigraphy and the few foreign notices like the *Periplus* concern themselves solely with matters of interstate commerce. Government, administration, war, diplomacy, religion, commerce, learning and education, domestic life, laws which governed acquisition, succession and transfer of property, sartorial and dietary habits, literary modes, fine arts, architecture and so on constitute the social life of a people; and from whatever details are known about these, we can also infer something about the values they held, their attitudes towards personal and public life etc., To some extent information on these counts is available in the above mentioned Sangam literature.

But there are scholars who doubt if such a thing as a Sangam existed; and even granting for the sake of argument that some such association did exist, when did it exist? Is it right to agree that the first few centuries of the Christian era constituted the Sangam age? Leaving these questions unanswered, one may proceed to think of the quantity of literature conventionally called the Sangam literature. Why is it so called? What was the Sangam that produced that literature? Was it the

Pandyan Sangam of traditional fame or was it the later and less known Jaina Sangha? Then, is the quantum of that literature (generally so believed by the literary orthodoxy) equal to the Tolkappiyam, the Ettuttogai, the Padinenkilkkanakku, Silappadikaram, Manimekalai and a few scattered pieces, or does the entire body belong to a later age, or do only parts of it do so and if so which parts - and if to a later age which age - etc., are interminable questions to which answers are found by different scholars in different ways. The entire question of the broader as well as the detailed chronology of the Sangam age and its literature has been such a jungle that the bravest will not have the hardihood to try definitive answers. In the context of this paper I am concerned only with a part of the literature, called the 18 Kilkkanakku works. Even to suggest that these 18 works are part of that mass is risky and so one must be content with saying merely 'the 18 Kilkkanakku Works'—regardless of the age to which they belonged. Then the next scholarly shaft will be 'did all the eighteen belong to the same age?, One can defend oneself against this shaft also by the armour of clearly defining the topic of this paper.

The subject matter of this paper is 'Education among the Tamils as Gleaned from the 18 Kilkkanakku works,. We shall proceed without committing ourselves to any position regarding chronology, for the time being. We shall then confine ourselves to 'the 18 Kilkkanakku works'. Even so, we may not feel quite safe, for another vital question crops up - are they all among themselves of more or less the same age? This apart, a more relevant question for us will be - what are the texts which constitute the 18?

We shall consider only the last question since it is necessary to know from what literary rock we must quarry our material for this paper. The list is as follows and the order is based on an old verse[1] which lists the 18 Kilkkanakku works. The verse is so composed that from the phraseology in the verse it is not possible to say whether it mentions Innilai or Kainnilai as the 16th work. It is dubious.

1. Naladiyar; 2. Nanmanikkadigai; 3. Iniyavai (40); 4. Inna (40); 5. Kar (40); 6. Kalavali (40); 7. Aintinai (50);

8. Tinaimoli (50); 9. Aintinai (70); 10. Tinaimalai (150); 11. Muppal[2]; 12. Trikadugam; 13. Acharakkovai; 14. Palamoli (400); 15. Sirupanchamulam; 16. Innilai or Kainnilai[3]; 17. Mudumolikkanchi; 18. Eladi.

The authors of these works are: 1. Some Jaina ascetics; 2. Vilambi Naganar; 3. Bhutan Sendanar; 4. Kapilar; 5. Kannan Kuttanar; 6. Poygaiyar; 7. Maran Poraiyanar; 8. Kannan Sendanar; 9. Muvadiyar; 10. Kani Medaviyar; (or Kani Medaiyar); 11. Tiruvalluvar; 12. Nalladanar; 13. Peruvayin Mulliyar; 14. Munrurai Araiyanar; 15. Kari Asan; 16. Poygaiyar; or Pullangadanar; 17. Kudalur Kilar; 18. Kani Medaiyar (or Kani Medaviyar).

So in all, if we take it that Innilai is the 16th work, then 16 authors have written 18 works; i.e. two of them writing two works each. If it is taken to be Kainnilai, then 17 authors have written 18 works, only one (i.e. Poygaiyar) writing two. The question whether the 16th work is Innilai or Kainnilai is not perhaps capable of being settled to the satisfaction of all; therefore I decide to use both works, making a source material of 19 works.

It is necessary to make a distinction between the three stages in schooling from the beginning to the end: 1. creating literacy, i.e. knowledge of the three R's; 2. teaching skills and providing useful information both as stepping stones to craftsmanship and as a basis for critical knowledge; and the provision of the learned background needed for creative work either in the sciences or the arts or speculative thought: This is teaching and its counterpart is learning; 3. Education when a person is given the knowledge as well as the perception and tools required for forging a value system for oneself and the ability to test the values in general critically. A mere literate is but one who knows only to read and to write and knows little more; and this is not enough to enable one to engage in learned discussions or enjoy literature or understand the laws of science. Crafts can be learnt by watching and example, without literacy; but scholarship cannot be acquired without it. Memory alone cannot bear the burden of advanced scholarship beyond a point. Strong memory and creative and critical intelligence on the other are

very different things. Learning of crafts and skills will be enough if the goal is to equip persons with the ability to *do* or *make* tangible, useful things. But the world of concepts and speculation would require more than the information vending school system.

The third stage which alone is rightly called education, requires teaching of philosophy and theory in an atmosphere of freedom. Here 'freedom' means the freedom for the student to think out his own values and differ from tradition and his teacher. The ability for the pupil to differ logically and convincingly from the teacher is the one ability that a good teacher should create in his pupil. The creation of the capacity to imitate and copy the teacher in thought, values and expression and pass it on to the next generation loyally and help preserve the tradition is not much of an academic achivement, though its importance and utility to the vested interests in society cannot be exaggerated. It may be stated at the very outset that the Tamil society which gets reflected in the 18 Kilkkanakku works was conservative in the extreme and believed in the inviolability of established dogma and behaviour. 'Unflinchingly stick to the path laid out by your forbears and move in the direction pointed out to you by your preceptor': seems to be the gist of all the sentiments on learning one gets in the 18 Kilkkanakku works. So I have my doubts whether I can say anything at all here about education as gleaned from the 18 Kilkkanakku works - in fact it seems it may be better to call it 'teaching and learning' rather than higher education for the reasons mentioned above. But since popular usage permits a rough equation of education with learning, I shall allow the caption to rest as it is.

The 18 (+1) Kilkkanakku works, apart from the prosodic metre, have much in common between them, viz., the moralising, missionary tone the Puram works among them adopt : e.g. the Kural, Naladiyar, Palamoli (400), Iniyavai, Inna, Acharakkovai, Nanmanikkadigai, Trikadugam, Eladi, Mudumolikkanchi, Innilai and Sirupanchmulam (i.e. 12 works). (This list leaves out the 4 Aintinais, Kar, Kalavali a purely war poem and Kainnilai the alternative to Innilai). A careful and exhaustive study of these works can reveal much about the mental furniture of the writers and the culture they delineated in their works, may be

to some extent tinged by their personal preferences. Serious work has been done only in regard to the Kural which unfortunately has monopolised scholarly attention to the disadvantage of the other works: with the possible exception of Acharakkovai which has received the scholarly attention of Prof. J. D. M. Derrett.[1] A comparative study of the ethical teaching found in these texts will roughly indicate a surprising amount of concurrence and repetition of ideas as well as even phraseology so that it seems that much of the thinking and expression on matters of human interest had become conventionalised on the lines of values approved by anonymous and perhaps unknown progenitors. Serious difference in values is not in evidence at all. They seem to imagine to be functioning in a world of eternal verities. So one can treat the entire corpus of Kilkkanakku works as a single body speaking through many mouths but in one voice.

The question of the authorship of some of the Kilkkanakku works, e.g. Kalavali (40) by Poygaiyar and Inna (40) by Kapilar has led to warm speculation leading to unresolved controversies. But that is a matter which will not interfere with my findings now. It may however be conceded that many if not most of the Kilkkanakku authors were Jainas. According to me, the following were authored by Jains: 1. *Naladiyar* — an anthology of verses by many Jain ascetics; 2. *Palamoli* (400) — Munrurai Araiyanar; 3. *Iniyavai* (40) — Bhutan Sendanar; 4 and 5. *Eladi* and *Tinaimalai* (150) — Kani Medaviyar; 6. *Aintinai* (70) — Muvadiyar; 7. *Tinaimalai* (150) — Kannan Sendanar; 8. *Sirupanchamulam* — Kari Asan; this apart from the *Kural* itself not being alone having suspected to be of Jaina origin. In spite of a lot of wishful thinking, there is still considerable ground for the belief that Valluvar was a Jaina. So if the *Kural* is added to the list it becomes a 50% of the total authorship of the Kilkkanakku works. This will help us know how the Palamoli, Naladiyar, Kural, Eladi and Sirupanchamulam which are very influential texts speak from the Jaina point of view. Not that this makes their comments dispensable but quite noteworthy. Their pessimism is well known and their scholarship is surely directed towards

such ends as will make the mind more contemplative and ponder the futility of things in general than be inquisitive and be attracted by materialist goals in a full earthly life.

The heavy insistence on non - secular learning and knowledge and sarcastic condemnation of secular learning stems perhaps from this bias : e.g. *Naladiyar* 52 and/40[5] ; in which orthography and astrology and other (according to them) non - religious knowledge was fancied only by the most idiotic among fools; such learning merely made learned noise and led no one anywhere, they said. Munrurai Araiyar says 'learning should relate to those which show the path to wisdom' (presumably spiritual).[6] If even useful secular knowledge was frowned upon there is no wonder they showed great prejudice against the entertaining arts of music and drama.[7]

The Kural undoubtedly bestows much attention to the question of learning, the consequences of not learning, the value of the knowledge gained by learning and the value of listening to the wise. But the author never gives any details regarding the modalities of teaching or the content of education. As in the other Kilkkanakku works there is much pointless repetition and a lot of very general and hazy remarks of a comprehensive nature, but no details of the structure and content of the programme of the teaching establishment. The Kural deals with learning positively and negatively in four chapters i.e. 1. learning (Ch. 40), 2. not learning (Ch. 41), 3. listening to the wise (Ch. 42) and 4. knowledge (Ch. 43). The opening verse i.e. K. 391.[8] says 'clearing all doubts, learn well what ought to be learnt; after learning that, suit your conduct to your learning.' He does not indicate what ought to be learnt; Parimel Alagar the commentator assumes that the author, because he uses the word கற்பவை i.e. what ought to be learnt, suggests that any knowledge other than what defines Aram (dharma), Porul (government and economy), inbam (love) and Vidu (renunciation) is not to be learnt. He is evidently guided by the fact that Valluvar himself has written only on aram, porul and inbam (and of course allowed vidu to be inferred). May be the commentator is right, though the author himself is quite vague on this vital point. 'Learning

alone is the one idestructible wealth' says Valluvar in yet another encomium.[9] The Naladiyar uses the word 'Karrarindar' more than once[10]; it means 'those who have learnt and known' or 'those who have experienced and learnt.' It is clear a distinction is made between learning and knowing. This is very interesting since it accords with our earlier distinction between 'learning' and 'education' i.e. that 'learning' is to acquire the know - how to *do,* and that education is the creation and the communication of the ability to *know* (i.e. to know to *know*). It is quite possible that I am reading too much in a simple phrase but if it meant that, it must be deemed quite an advanced concept.

Naladiyar lists a number of reasons why a person should 'learn' and learn selectively; the careful choice of what should be learnt is necessitated by 1. the brevity of human life; 2. The vastness of knowledge; and 3. possible physical handicaps which prevent continuous study even during the short life.[11] The same text asserts that 'learning is the true ornament (beauty) of man'[12]; the reasons given are: 1. it is useful for worldly purposes[13]; 2. one can give it to others without losing it oneself; 3. it enlightens one; 4. it will not disappear during one's life time.[14] *Nanmanikkadigai* says 'Nothing like learning.'[15] *Iniyavai* (40) gives an unusual (unusual for the culture) reason and says 'one must learn at least for the pleasure of it[16] and the *Kural* agrees in another contest.[17] Vilambi Naganar, therefore, concludes that the best inheritance for a loved son is learning;[18] and that 'a body that is not the receptacle of learning is a ruin to its owner'[19].

Learning is always linked to conduct by the Kilkkanakku authors. We have seen how the Kural enjoins on one to live up to his learning. The *Acharakkovai* says 'learning leads to *achara'* i.e. good conduct;[20] and says 'therefore support learning'[21]; *Nanmani* equates conduct and learning [22]; 'whether a person is learned will be seen from his knowledge' says *Mudumolik-kanchi*[23].

Since it was held that the aim of learning is to create good conduct, it is naturally held that if one is to choose

between the two 'conduct, is superior to learning' since ends are more important than means.[24] This view does qualify the one earlier mentioned i.e. that learning has its own pleasures to offer.

'Befriend the learned and be in their company' is a repeated advice from *Naladiyar*[25]; association with the learned improves the mind.[26] Only the learned understand the learned.[27] The learned must be respected[28]; one may, perhaps take it that the scholarship of the learned is meant here.

The democratic principle of distinguishing persons only by their accomplishments and never by adventitious factors like community born in (hindus recognise and set great store by 'high' and 'low' births) is often mentioned in many of the texts, particularly the *Kural* and the Naladiyar. 'Learning makes the high and the low equal'[29]; The boatswain belongs to inferior caste, but is a useful person; his services, therefore, are not rejected; so also anyone who is learned must also be respected'[30]. Therefore one should not hesitate to learn things from (even) a person of 'low caste'. This principle is extended to 'the young' and 'the old' and it is stated 'In one family he who has grown without learning is ignored and the learned young is praised by the world'.[31] The learned youth are young in age but old in wisdom.[32] So there shall and will be universal recognition and praise of scholarship found anywhere.[33]. The learned are the citizens of the world, natives of all lands for they are honoured everywhere. Valluvar wonders why a person does not go on studying through life, since the hospitality of the entire world is available to the man of learning.[34]

It is interesting to note that while many of these authors have repeatedly asserted the equality of scholars whatever be the communities to which they belong, not one statement regarding the equlity on the basis of sex is seen in the entire gamut of Kilkkanakku texts. Bias against the female sex seems to have been more deep rooted and vicious than that against the so called inferior jatis. We do not know if there were women teachers. 'Don't listen to the words of a woman' was common advice in which nobody saw anything objectionable.

The author of the Palamoli has an interesting observation to make. He says that 'kula viddhai' (literally — 'family knowledge, whatever that might mean) comes to one without learning;[35] i.e. it is genetically inherited. Since learning itself is acquired, it is doubtful if that can also be inherited. This question, we know, is a matter of dispute between neo - Darwinism and Lamarckism. But surely Munrurai Araiyanar was unaware of these biological subtleties but was merely voicing an idea based on the notion of jati.

Though learning is prescribed for all, it is specially enjoined upon the highborn.[36] Though this special advice is not intelligible, any advice in this regard calling upon people to learn is welcome.

It is often stated that a person should start learning early in his life.[37] It is same advice; but it is only very rarely that it is followed up by the fulfilling advice that learning should be continued through life.

Palamoli makes a strange statement that if the learned misbehave, it will not be minded;[38] but it might seem to anyone that it should be the other way about. In fact it should be deemed specially execrable if those who are to set examples to others misbehave.

It is said that 'desire' (always considered undesirable by Indian thinkers) will be destroyed when caught in the web of many learned works;[39] 'that the learned are humble and restrained;[40] 'the more one learns the more one realises one's ignorance'; i.e. the intensity and immensity of one's past ignorance becomes all the more evident in the light of learning now acquired.[41] 'Even finished scholars are not immune from error' as even Homes occasionally nods.[42]

The power of scholarship is recognized; its ability to convince is its justification for praise.[43] Though it has not been stated that the pen is mightier than the sword, it is laid down that 'the poverty of the learned is better than the riches of the illiterate'.[44] If the wise fall, they will rise again; if the illitrate falls, he will break his knees' is a pleasant statement in *Nanmani*.[45]

So far as the content of learning goes, the maximum information one gets in this source is that the teacher of those times considered en i.e. logic and eluttu i.e. orthography essential study.[46] It must however be remembered that logic and grammar are but normative disciplines and do not indicate subjects for study. 'Arivu' i.e. 'discriminating knowledge' is treated rightly as a consequence of learning.[47]

The wise men who wrote the Kilkkanakku works said that 'listening to the wise was most important than even learning.[48] It is stated that 'one should find out the true meaning of things, from whomsoever one might have heard them'.[49] But it is nowhere indicated how this can be done. Whether the services of a preceptor are meant or what other tools of criticism are to be employed is not known.

Sirupanchamulam says plainly 'ignorance (not learning) is evil'.[50] The ignorant are the poor (the genuinely poor).[51] The illiterates who speak falsely are to be feared and abhorred.[52] The attempts of the ignorant to impress scholarly assemblies is ridiculous.[53] So it is said that one should give up the ignorant and support the learned.[54] Scholarship is for those who aspire to it.[55]

Transcending all this, a bit of wordly advice was given by more than one author of this group. Distinguished among them, Valluvar says 'live like the others in the world'.[56] This seems to contradict the advice given in K. 391 when a person is called upon to live up to his learning. It is difficult to determine what a man of conscience could do in case of a conflict between the two. The conflict between expediency (which is another word for self interest) and principle (which means a willingness to sacrifice for the sake of transcendental truth and virtue) seems to be resolved in favour of the former. Perhaps 'ulagam' i.e. the world meant the wise and learned men in the world; if so there would be no conflict; but then it would have been merely redundant to have said it.

There is an oracular statement in the Nanmanikkadigai;[57] i.e. 'Father a teacher is considered to be'; it can mean that

'the male parent of a person is his teacher' or that 'the teacher must be treated as a father'. In the case of brahmins, when the brahmachari is introduced to bramha vidya his father is regarded as his *guru.* One cannot be certain if this is what Vilambi Naganar kept in mind. In any case the general idea seems to be unmistakable; i.e. the precepter should be allowed to exercise the dominion over the mind which the father usually exercises in the family i.e. practically ultimated.

It was recognised that a teacher was a necessity in every village and town;[58] later on it became proverbial to say 'do not live in a town where there is no temple'. Thus the Tamils were providing for the training of the mind and the worship of their gods.

There is frequent mention of brahmins and their proficiency in the vedas;[59] and they are mentioned as exemplars in character and conduct.[60] A brahmin who has not learnt his vedas is condemned. It seems proper to infer that the others did not study the vedas. Six days in the month are mentioned as holidays for the students of the vedas; these are in addition to such days on which the king is ill or in some other difficulty, or when there is a natural calamity like an earthquake or a thunder storm, or on such days when he is personally polluted.[62]

A teacher is defined as a person who has resisted the demands of his masculine nature; i.e. who is a celibate;[63] and the ideal student was one who had conquered desire, anger and doubt.[64]

The student is told how he should conduct himself before his tutor: he should stand when the teacher stands; be quiet when the teacher is silent; he is not to leave unless asked to; he should listen to the teacher and repeat; and he is not to ask questions when the preceptor is quiet.[65] 'Pupils must learn logic and grammar from their tutors and write them down in palm leaf strips with the help of the stylus; to such pupils it is charitable to provide food, shelter, stylus and books.'[66] The

conduct of the pupils held up as model here shows that what was required was to secure a loyal continuation of the teacher's information and knowledge from generation to generation learning by rote and preserving by repetition rather than disquieting queries which might disturb the complacency of the conservative tradition. So the Mudumolikkanchi carefully and wisely says[67] that it is better to worship the learned than try to become learned oneself. 'Learning is good; acquire it even by begging it of the learned';[68] 'Remembering what is learnt is better than scholarship'[69] further confirms this.

Mudumolikkanchi defines learning as 'that which is acquired after paying suitably for it (obviously as fee to the teacher); or to put it as that text does, 'what is acquired without properly paying for it is not learning'. There is an alternative reading for the first word in the verse; instead of நேராமல் (without paying for) it is permitted to read தேராமல் (without proper investigation or enquiry i.e. uncritically. The modern editors of the work prefer நேராமல் to தேராமல். This preference is irself a part of the Tamil intellectual tradition and it is quite possible that the author of the text also meant it to be only நேராமல். For learning meant to them sitting at the feet of a preceptor, listening to what he said, getting by heart the text and commentaries, remembering and repeating what he had heard from the teacher, taking notes in palm leaf strips, paying guru dakshina to the teacher, respecting and even worshiping him-these were parts of the system. Understanding was permitted but not questioning the very basis of the texts or preferring a value different from what the author of text or his communicating agent, the teacher thought proper to convey. Worship benumbs understanding, and probably for that reason was preferred to criticism.

We have seen above a fairly exhaustive anthology statements in the 18 Kilkkanakku works which deal with the question of learning. It will at once become clear that we have no information here on the syllabus for the various discipliness taught, how and what the agriculturists and other kinds of labourers and artisans were taught and how long; how were they tested for their academic achievements or failure to achieve; what was

the role of the state in all this activity? Where was the school situated? Who maintained it and at what cost and at whose expense? We have no specific and explicit answers to any of these questions. In ancient Tamilnad it is apparent that education *as a social process* was unknown. It was the individual's interest. The learner and the teacher settled it between themselves. Society, represented by government, or otherwise, did not consider it part of its function to 1. control or 2. aid the process of education.

There is no doubt that the Tamil society was great store by literacy, learning, knowledge, But we do not know what percentage of the society actually went through this mill. Lack of literacy was felt as a shameful deficiency; even wealth and power could be no substitute for it. John of Salisbury said 'an illiterate king is a crowned ass' and the Tamils would have agreed. There were three areas of learning now discernible in that dim past: 1. the technology of craft or industry i.e. the knowledge of do-how; 2. vedic and other metaphysical and hieratic knowledge confined perhaps to the brahmins and similar religious elitist groups; 3. general secular knowledge regarding reading, writing, arithmatic, accounting, logic, grammar, edifying stories; the rules of prosody, and the Nikandus (kind of thesaurus of vocabulary lists) which were all to be got by heart and repeated when asked to.

When the Kilkkanakku works are studied with the rest of the Sangam literature, the following picture will emerge: The purpose and process of education for them was two fold: i.e. for the hereditary craftsman it was a utility based theory-free training; and for the hereditary priestly community it was a speculative area of reception, retention and repetition of theoretical ideas. The latter did understand the texts but they were obliged to understand them as they were expected to and not indulge in criticism which might question the basis of the values taught by them. The former were the vast majority; but all pursued hereditary lines of thought and action. Innovation contrary to the basic tenets of the culture was unthinkable.

Some areas of learning like learning the three R's - and

composing a poem on any subject of secular or religious import were accomplishments not denied to any caste or either sex. The Purusharthas or the Nar porul of which frequent mention is made was a theoretical frame - a broad programme for an ideal person's total life - and always enjoined on all learners- but few could have been expected to remember them while engaged in the tough battle life. The process of learning consisted of 1. practical training imparted by parent to son or any guardian to ward in the intricacies of any particular hereditary profession to which the learner belonged. The practitioners of these crafts could be illiterates; or 2. literary learning with a teacher, the two together constituting an institution; or 3. listening to the wise, and collecting through the ear what wisdom one could.

This, certainly a very vague and thin outline of a situation, the real details of which are not known to us. It is however, not permissible for anyone to draw romantic picture out of scarce source material or conclusions from negative premises.

Valluvar whose work consists of the most formidable array of dos and don'ts, says in regard to learning: 1. learn what you should; 2. live up to your learning. He dose not say anywhere *what* should be learnt - presumably he meant all that conformed to his own teachings in his work: the rules of the Varnasrama, monarchical polity game carefully learnt and loyally adhered to.

Deviant thought and eccentric behaviour were objected to. No responsible person was expected to set his own norms of secular or religious conduct. It was a goose step march from cradle to the crematorium in consonance with established principles and never daring to defy the prohibitions. What people really did-we know from other kinds of literature, but what people were expected to do, these texts tell us. The curious is a modern phenomenon and a new entrant to this culture; that curiosity is disquieting, for it can disturb the *status quo;* and in a conservative society *status quo* is sacred. There was a fully integrated system of thought on this subject and one searches in vain for any serious intramural contradictions among the authors who wrote the Kilkkanakku works.

References

1. நாலடி நான்மணி நானாற்ப தைந்திணைமுப்
பால்கடுகம் கோவை பழமொழி மாமூலம்
இன்னிலைசொல் காஞ்சியுடன் ஏலாதி யென்பவே
நைந்நிலைய வாங்கீழ்க் கணக்கு.

2. i,e. *Tirukkural.*

3, If it is *Innilai* the author is poygaiyar, presumabiy tne same as the author of No. 6; if it is *Kainnilai* it is Pullangadanar.

4. *Vide Homage to a Historian.*

5. “ ....தொலைவில்லாச்
சத்தமும் சோதிடமும் என்றாங்கு இவைபிதற்றும்
பித்தரிற் பேதையார் இல்” (52)
“அறிவுநூல் கல்லாது உலகநூல் ஓதுவ—
தெல்லாம் கலகல கூஉந்துணை.” (140)

6. *Palamoli* (400) : 334.

7. “பாடகஞ் சாராமை பாத்திலார் தாம் விழையும்,
நாடகஞ் சாராமை நாடுங்கால்—நாடகம்,
சேர்ந்தாற், பகைபழி தீச்சொல்லே—சாக்காடே,
தீர்ந்தாற்போற் றீரா வரும்.” *Eladi* : 25.

8. 'K' for *Kural* hereinafter.

9. *K.* 400.

10. *Naladiar* : 133, 138.

11. *Naladiyar* : 135.

12. 'கல்வியழகே அழகு' — *Naladi. 131; vide* also *Sirupanchamulam* : 37; *Eladi* : 74.

13. It will be noted that this contradicts an idea in the same book, noted earlier, that learning must not relate to wordly things—*Vide fn,* 5.

14. This does not agree with the *K.* view that 'the learning acquired during one's life time pursues him through seven births'. *Naladiyar* seems to be slightly more reasonable.

15. 32; hereinafter *Nanmani.*

16. 40.

17. *K.* 783,
18. *Nanmani.* 105; *Naladi.* 134.
19. 22.
20. 1.
21. 3.
22. 96.
23. 1.4; hereinafter *Mudumoli.*
24, *Mudumoli.* 1.
25. 138; 211.
26. 139.
27. *Palamoli* (400) : 5, 337.
28. *Eladi* : 9.
29. *Naladi.* : 133.
30. *Ibid* : 136; *K.* : 409.
31. *Nanmani* : 66
32. *Sirupanchamulam* : 22; see also 23 for a similar sentiment.
33. *Palamoli* (400) : 55; *Vide* Mūdurai : 'கற்றார்க்குச் சென்ற விடமெல்லாம் சிறப்பு. *Nanmani* : 84, if Nallar in that verse means 'the learned'.
34. *K.* 397.
35. 21.
36. *Inna* (40) : 19.
37. *Trikadugam* : 56; *Palamoli* : 60; *Nanmani* : 94; *Sirupanchamulam* : 56. *Vide* the famous *Atti sudi*—இளமையிற்கல் : learn while young.
38. 258.
39. *Nanmani* : 81.
40. *Palamoli* : 243.
41. *Ibid* : 332.
42. *K.* 503.

43. *Palamoli* : 367.
44. *K*. 408.
45. 75.
46. *K*. 392. 'எண் எழுத்து இகழேல்' (ஆத்திசூடி); 'எண்ணும் எழுத்தும் கண்ணெனத்தகும்' (கொன்றை வேந்தன்).
47. *K*. 396.
48. *Palamoli* ; 61; Trikadugam : 1; *Sirupanchamulam* : 94; *K*. 414.
49. *K*. 423.
50. 51.
51. *Trikadugam* : 84; 92.
52. *Palamoli* : 350.
53. *Sirupanchamulam* : 5; 12; *Inna* (40) : 16.
54. *Trikadugam* : 3; 99.
55. *Inna* (40) : 34.
56. *K*. 426.
57. 45.
58. *Trikadugam* : 10.
59. *Nanmani* : 91; *Trikadugam* : 70; *Iniyavai* (40) : 7.
60. *Trikadugam* : 2; *Eladi* : 1.
61. *Inna* (40) :21.
62. *Acharakkovai* : 47; *Kasikandam* has a verse epitomising these ideas.
63. *Sirupanchamulam* : 29.
64. *Ibid.*
65. *Acharakkovai* : 74.
66. *Eladi* : 63.
67. *Mudumoli* : 8.
68. *K*. 395; *Iniyavai* (40) : 1. கற்கை நன்றே கற்கை நன்றே; பிச்சை புகினும் கற்கை நன்றே (உலக நீதி).
69. Mudumoli : 3.

The Role of Buddhist and Jain Schools in Tamil Educational System

— *Dr. K. R. HANUMANTHAN*

"The Buddhists and Jains seem to be mainly responsible for the evolution of the Tamil script. They also seem to be the earliest protoganists of women's education. They were liberal in spreading education among the masses. Particularily the Jains considered it as a religious duty to offer education to the masses and call it as Sattira Dhanam. The Buddhists and Jains taught the students mainly religious doctrines, ethics, logic and medicine."

The Buddhists and Jains were perhaps the earliest protagonists of Tamil Educational system. The very world 'Pallikoodam" (பள்ளிக்கூடம்) in Tamil, meaning a school, is having Jain and Buddhist Connotation, in as much as the word "palli" means a Jain or Buddhist monastery. And "Koodam" means a small room. Since the Jain and Buddhist monks held classes for their students in one of the Chambers of their monasteries, the place where such education was imparted came to be called as "palli koodam" Non Buddhist and non Jain teachers held their classes in their own houses, in the raised platform called "Thinnai" constructed in the porch. Even those places were called as "Thinnai palli". Thus the word "Pallai" came to be used by one and all in Tamil Nadu in the sense of a school.

Education through Mother-tongue

The Buddhists and Jains were no doubt outsiders to Tamil Nadu. Having come from North India they were originally well versed only in Prakrit, Sanskrit or Pali languages. But once they came and settled in Tamil Nadu they began to study the local language thoroughly and propagate their religious doctrines in the

mother tongue of the people. This laudable policy was quite in contrast to that of the protagonists of the vedic religion, who dogmatically clung to sanskrit as the vehicle of their expression and propaganda. It is no wonder that Buddhism and Jainism captured first the attention of Tamil scholars and even the common people. Some of the traditional stories current among Jains and Buddhists bring out in bold colours the interest taken by them in learning, and expressing their ideas in Tamil.

According to Buddhists belief Agasthier the Tamil Saint, who composed the first Tamil grammar called "Agattiyam" learnt his Tamil from the Buddhist God Avalogitha who is said to be the originator of the Tamil language itself. This contention is made by Buddhamitra the author of "veerasoliyam" a Tamil grammar[1]. This is of course a tall claim born out of the Buddhist chauvanism. But the very fact that they gave a divine origin to Tamil brings out in no uncertain terms the great love and respect the Buddhists had, for the Tamil language. Later on the saivites created the legend that Siva was the originator of Tamil and it was from Him that Agasthiar learnt Tamil and gave it to the world.

The Jains though they do not give a divine origin to Tamil stress the importance of studying Tamil. According to their tradition, there arose a verbal contest between Siddhasena Dievakara a sanskrit court poet of Ujjain and Vriddhavadi Munivar a Jain monk. It was agreed that the defeated one in the oral contest must become the disciple of the winner. During the contest Siddhasena was putting questions in sanskrit while Vriddhavadi Muniver was answering them in the language of the common people. In the end Siddhasena was defeated and he became the disciple of Vriddhavadi. Later on Siddhasena asked his guru permission to translate all the Jain works written in Ardhamagathi the popular language into Sanskrit. Vriddhavadi flatly refused his request and told him of the importance of writing and preaching through the language of the people. Siddhasena felt for his wrong suggestion and observed silence thereafter as

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1. ஆயுங் குணத்தவ லோகிதன் பக்கல் அகத்தியன்
கேட்டேயும் புவனிக்கியம்பிய தண்டமிழ் — Virasoliyam Payiram 2.

an expiation for his guilt.[2] This story brings out the policy of the Jain monks to study the people's language and preach their doctrines through it. So also Lord Buddha issaid to have refused permission[3] to his Brahman disciples to commit his teachings in sanskrit. We find an echoc of this policy of the Jains and Buddhists in that of the Jesuit Missionaries of Modern Times who not only studied Tamil for propagating their religion but for the sake of Tamil itself. It is to be noted here that all these outsiders mastered Tamil to such an extent that they could write grammatical works in Tamil. The author of the earliest Tamil grammar Tolkappiam is said to be a Jain. Nannul a Tamil grammar of later times was composed by Pavanandhi Munivar a Jain monk. Though authors differ with regard to the religion of Tolkappiar, there is no doubt about the religious proclivities of Pavanandi. Tivakaram, a sort of lexicon in Tamil was written by a Jain author. Virasoliyam, another grammatical work was written by a Buddhist author Buddhamitra. We know how modern Missionaries of the west wrote grammatical works in Tamil.

Literary Contribution in Tamil

Tamil scholars declare that the virgin goddess of Tamil is wearing five jewells called Monimakalai, Silappathikaram, Valayapathi, Kundalakesi and Chinthamani of these the Manimekalai and Kundalakesi were written by the Buddhists while the other three were authored by Jains. Valayāpathi and Kundalakesi are not available now infull. Perhaps they were destroyed by Saivites and Vaishnavites.

The Jain monks and householders produced a large number of ethical works termed as pathinenkeelKanakku, Naladiar, Pazhamozhi, Eladhi, Nanmanikadigai, Sirupanchamoolam, Inna Narpathu, Iniyavai Narpathu etc. Tirukural which is noted for its cosmopolitan outlook is vitiated by Jain ideas and ideals.

During the medieval period the Jains produced voluminous works such as Perungathi, Neelakeṣi, Yasodara kaviyam, Udayana

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2. Mayilai Seeni Venkatasamy, Samanamum Tamilum, pp 45-46
3. Mayilai Seeni Venkatasamy, Bauddamum Tamilum, p. 84

kaviyam, Nagakumara kaviyam, Merumanthira Puranam, Kalinga-ttuparani etc., Minor works such as Tirukkalambagam, Noorran-thathi, Nariviruttam, Kananool, Pavainool, etc., were also composed by them. In the 10 century A.D, a Jain Saint called Amirtha-sagarar wrote two works on poetic metres, called Yapparunkalam and Yapparunkalakkarigai. One Gunasakarar wrote a commentary on Yapparunkalakkarigai. Gunavirar of 12th century A.D. wrote Neminatham in praise of Neminatha Thirthankara. While Pavan-andi Munivar wrote the Tamil grammar called Nannool, Mayilai Nather of Mylapore wrote a commentary on it.

The Buddhist contribution to Tamil Literature was not as great as that of Jains, but they are noted for their depth of scholarship in Buddhist lore. Of the Sangam classics, the Manimekalai is the only Buddhist work extant even how. It was composed by a Buddhist scholar known as Seethalai Sattanar. Kundalakesi a work on Buddhist logic has disappeared, from the literary world. Veerasoliyam a grammatical work written by the Buddhist scholar Buddha Mitra is still available. But Sid-dhantha Thokai and Tiruppathigam, the two Buddhist theological works, and Bimbisaran kathai (Story of Bimbisara) were all lost to posterity.[4]

Contribution to the growth of Tamil Script

The Buddhists and the Jains, not only contributed to the growth of Tamil Literature but also to the development of the Tamil script. The earliest inscriptions of Tamil Nadu found in caves which were once occupied by Buddhist and Jain monks, are carved in the Brahmi script. Asoka used Brahmi script for inscribing his pillar and rock edicts wirh Prakrit words of wisdom. The same script was used by the monks to inscribe Tamil words in the caves. Such inscriptions, assignable to 3 rd to 1st centuries B.C. are found mostly in the Pandia Mandalam in such places as Alagarmalai, Anaimalai, Nagamalai, Siddharmalai, Arittapatti, Mankulam, Muttupatti, Tirupparankunram, Varichchaiyur, Karun-galakudi, Keelavalam Tiruvathavur, Vikramangalam, Marugalthalai Sittannavasal, Pillayarpatti and Kunrakudi. Mr. Iravatham Mahadevan had successfully deciphered them as Tamil words written in

4. Mayilai Seeni Venkatasamy, pp 149-155.

Brahmi script.[5] For those letters pecular to Tamil and absent in Brahmi, such as ra and Zha (ற, ழ) the monks created new letters and added them with the already existing letters. During the Sangam age Tamil scholars ought to have used only Brahmi script, which was indeed a contribution by the Buddhists. The monks who went to Ceylon to propagate Buddhism ought to have passed through Tamil Nadu and at least some of the caves mentioned above should have been used by Buddhists; because Buddhist names such as Ātan and Cattan[6] are found in some places at least (Kunrakudi, Muttupatti and Araccalur) Further Asoka's Edicts declare that Buddhist monks were sent to Chola and Pandia countries and were conquered by Dharma. The formation of the caves in the above mentioned caves is similar as that of Buddhist caves in Ceylon. So there is a probability (though nor certainty) of at least some of the inscriptions being carved by Buddhist monks.[7] Later the Tamils developed the Vatteluthu from out of Brahmi script. Some of the Jain caves contain Vatteluthu inscriptions of the 8th or 9th centuries A.D. (for e.g - Samanar malai near Madurai) During the Chola period Grantha letters were used by Jains and Buddhists and from it the modern Grantha Tamil script was formed.[8] Thus the Buddhists and Jains seem to be mainly responsible for the evolution of the Tamil script.

The Buddhists and Jains also seem to be the earliest protoganists of women's education. Avvaiyar a sangam poetess was a Buddhist. Kavundi Adigal of Silappathikaram was a lady Saint and scholar. The inscriptions at Kalugumalai in Tirunelveli district mention a large number of women scholars to whom siddhanta or Jain theology was taught. They are called as kurattiyar and Mānakkigal (Female students). Names such as Koodar kudi kurathigal[9] Milaloor kurattiyar (399-110) Pattini

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5. Mr. Iravatham Mahadevan, Corpus of the Tamil Brahmi inscriptions in Seminar on Inscriptions Ed. by R. Nagasamy, pp.57-73.
6. Op. cit pp. 65, 67
7. Mylai Seeni Venkatasamy, Op. cit pp. 20-27
8. Ibid p. 90.
9. South Indian Inscriptions, Vol. V. 394-105

padarar Manakkigal Tirupparuthi Kurattigal (372-83'— this shows that some nuns were students of male monks called Badarar) Sri Tirumalai Kurattigal mānakkan Enadi Kuttanan (this shows that male students studied under female saints). Sri Nalgur Amalanemi Padarar Manakkikal Nalgoor Kurattigal (356-67). Sri Milalur Kurattiyar Manakkiar Tirucharanattu Padaigal (321-32). Another inscription speaks of a grant made for such daily teaching of siddhanta.[10]

Mass Education

The Jains also blazed a new trail in the system of education by allowing even the low caste people to study scriptures. A Jain work called Arungala cheppu declares that even the son of a paraiah, who is learned and enlightened will have to be considered as a God.[11] The Buddhists were equally liberal in spreading education among the masses. But the Jains considered it as a religious duty to offer education to the masses. According to Jain scriptures charity is of four kinds i. e. Annadhana (offer of food), Owshada dhana (doling out medicines), Abaya dhana (giving asylum) and Sāttira Dhanam (giving education). Of these the last one was considered to be very important.[12]

Preparation and distribution of manuscript copies

The Jain monks like the Christian monks of Medieval Europe rendered a great service to the spread of education by making copies of books and distributing them among the public. Wealthy Jain householders, employed scribes during periods of rejoicings like marriage or mourning took copies of important books and offered them free to the proper people. In an age when there was no printed book, this was indeed a great service to society. It is said that in the Canarese country, a wealthy lady called Attimuppe prepared thousand copies of Santhipurana at her own cost and gave them as charity[13] to the needy persons.

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10. A. R. 405-116, 117
11. பறையன் மகனெனினும் காட்சியுடையான்
    இறைவன் என உணரற் பாற்று — Quoted by Mayilai Seeni Venkatasamy in Samanmum Tamilum, p. 41
12. Samanamum Tamilum, p. 44

Siddha worship

In ancient times it was customary in every school, for the teachers, to offer prayers to the Siddhas (perfect individuals) before teaching Arithmetic (Nedung kanakku) and writing to the students. They used to utter the mantra "Hari Namottu Siddham" In canerese and Telugu regions the teachers used to utter the mantras 'Siddam Nama' and "Om Namassivaya Siddam Name" respectively. This was a practice copied from the Jains who used to pray the Siddhar (one among the five parameshtis) before teaching the students how to write.[14]

Content of education

An examination of the books written by the Jains and Buddhists one can understand that the Jains and Buddhists taught the students mainly religious doctrines, ethics, logic and medicine. Manimekalai talks of discussions among scholars belonging to various sects. Naturally it implies a study of logic. Neelakesi was a Jain work containing logic. That the Jains taught medicine to students is revealed from the medical titles to some of their ethical works i.e., Thirikadugam (Three medicines), Nanmanikkadigai (Four kinds of mixtures of precious stones), Sirupanchamoolam (a herb), Elathi (a medicine) etc. Jains were also adepts in magical formulas and taught them to some of their disciples. Periapuranam talks of the magical powers of Jain monks who did wonders like creating elephants and serpants. God Siva is said to have converted them into small hills near Madurai known as Anamalai (elephant hill) and Nagamalai.[15] People were scared away from Jain monks only because of their skill in Mantras and Thantras. It was when they could not heal the Pandian king of his fever by their magical powers, Tirugnana sambandar a saivite saint cured him by applying Tiruneeru (Sacred ashes) and then converted him into Saivism from Jainism. The Buddhists also were adepts in Tantras or black magic. Their Thantra shastras sometimes lowered the morality of the monks who practised them and therefore people began to hate them. It is said that the

13. Samananum Tamilum, p. 44
14. Op. cit. pp. 96-97
15. Samavamum Tamilum Op. cit, p. 153.

Buddhist monks were taught a type of physical education in order to save themselves from wild animals and savages in forests. A chinese monk who came to India during the period of Harsha is said to have learnt it from a Buddhist monk and introduced it into China where it developed into the modern karate.

The Buddhist and Jain scholars seem to have studied Philosophical systems other than their own in order to refute them in religious disputations. The minor epic known as Neelakesi points out how the woman saint Neelakesi defeated in oral contest people well versed in other philosophical schools. Thus Neela at first successfully refutes the Buddhist Philosophy as expounded by Kundalakesi, Moggala, Buddha and Arukka-chandra. Then she overcomes in debate, Poorana the propounder of Ajivaka school of philosophy, Ulagachitra the expounder of Vaiseshika school, Parasara the exponent of Sankya school, Boothika the propagator of the vedic school and Pisasika the believer in Logayatha school.[16] So also Manimekhala a Buddhist nun is said to have listened and studied the various schools of philosophy known as Pramana vada, Saiva Veda, Brahma Vada, Vaishnava Vada, Veda, Veda, Ajivaka Vada, Niganta Vada, Vaishe-shika Vada and Bhuta Veda.[17] The Jains of Tamil Nadu seem to have promoted ths Arugatha system of philosophy as found in Neelakesi and Sūlamani.[18] The Buddhists of the Sangam age seem to have contributed to the Hinayana system of philosophy.[19] Thus the Buddhist and Jain schools contributed not only to the growth of their own schools of philosophy but also to the other schools of philosophy which formed part of their educational system.

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16. Neelakesi with commentaries by Somasundaranar Kazhaka Veliyeedu, pp. 115-828.
17. Manimekalai, Kazhaka Veliyeedu, pp. 303-325.
18. Sulamani, Kazhaka Veliyeedu, part I. pp. 154-160.
19. N. Balusamy, Studies in Manimekalai, p. 122.

Tamil Educational System as Revealed from Jain Literature

Jain Literature in Tamil such as Nannool, Naladiar, Pazhamozhi-Nanooru give us a vivid sketch of the nature of the Educational system prevailing in ancient and medieval Tamil Nadu. They also reveal the educational ideals of our ancient Tamils.

Purpose of Education

According to Swami Vivekananda "Education is the manifestation of the perfection already in Man" Therefore the purpose of education is to bring out his innate talents. The very Tamil word 'kalvi' donoting education conveys this ideal. Kalvi is derived from the word 'Kal' which means to dig up. Thiruvalluvar rightly says that even as water springs up one digs up the sandy surface of a well, so also intelligance wells up as one goes on reading and reading books.[20]

The purpose of education according to Nannul is to enable a man attain the four ideals of Aram, Porul, Inbam, Veedu. Aram means leading a dutiful, righteous and selfless life. One must lead a life of usefulness to his family and society. To give (ஈதல் அறம்) and to help others must be the motto of the house holder.[21] Thus according to Nannul education must make a man socially conscious-a servant of society. It should also make him into a man of character for the word Aram implies a virtuous life. Thus an educated man is expected to be a selfless man of character. Secondly, education must enable a man to earn porul or wealth by righteous means. As Valluvar says nothing can be achieved in this world without wealth, even as the other world to heaven cannot be achieved without grace and mercy

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20. "தொட்டனைத்தூறும் மணற்கேணி மாந்தர்க்குக்
    கற்றனைத் தூறு மறிவு" - kural, 296.

21. துறந்தார்க்கும் துவ்வாதார்க்கும் இறந்தார்க்கும்
    இல்வாழ்வான் என்பான் துணை - Kural 42.
    தென்புலத்தார் தெய்வம் விருந்தொக்கறானென்றாங்
    னகும் புலத்தார் ஓம்பல் தலை - Kural 43.

for all living creatures.[22] But the wealth must be earned by righteous means. Such a wealth will fetch Aram as well as Inbam or conjugal pleasure.[23] Thirdly, it should enable a man to lead a happy married life, which is nothing but conjugal felicity. Fourthly, it should show him the path of attaining Moksha or emancipation from births and deaths. In the jag end of life one must develop detachment and lead a religious life. Thus the purpose of education according to the Nannool was not to renounce the world but to live in the world happily with wealth, woman and worldly pleasures. Lastly, it should prepare him for the life after death. The atuhor of Nannool perhaps echoes the ideals of life as preached by the great men of Tamil Nadu and India i.e., Dharma, Artha, Kama and Moksha the four purusharthas of life. He seems to endorse the Modern educationists who say that education must aim at all round development of man and that it should be not merely book centred but also craft centred and character-centred.

Importance of Education

According to Naladiar a Jain work there is nothing comparable to Education in this or anyother world, as a medicine for all the miseries of the world. It serves as an instrument of happiness in this world, and it is nor depleted when given to others.[24] Further it is the real beauty of man as it makes him to feel that he is good and natural. The beauty created by stylish hair, beautiful ornaments, and application of turmeric over the body is not at all beauty.[25] Moreover a learned man is glorified

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22. அருளில்லார்க் கவ்வுலக மில்லை பொருளில்லார்க்கு
இவ்வுலக மில்லாகி யாங்கு - Kural 248.

23. அறனீனு மின்பமு மீனுந் திறனறிந்து
தீதின்றி வந்த பொருள் - Kural-754.

24. இம்மை பயக்குமால் ஈயக் குறைவின்றால்
தம்மை விளக்குமால் தாம்உளராக் கேடின்றால்
எம்மை உலகத்தும் யாம்காணேம் கல்விபோல்
மம்மர் அறுக்கும் மருந்து-Naladiar-132

25. குஞ்சி யழகும் கொடுந்தானைக் கோட்டழகும்
மஞ்சள் அழகும் அழகல்ல—நெஞ்சத்து
நல்லம்யாம் என்னும் நடுவு நிலைமையால்
கல்வி அழகே அழகு-Naladiyar-131

wherever he goes.[26] Further it raises the status of a man in Society. Even if he is low born, he will be elevated to the highest level in Society if only he is learned.[27] Following the footsteps of the Jains scholars of later times exhorted everyone to get educated even it is by begging (பிச்சை புக்காயினும் கற்றல் இனிதே - இனியவை நாற்பது - 2) Tirukkural declares that only the educated will be considered as person with eyes while the others will be deemed to possess only two sores in their faces (கண்ணுடையரென்பவர் கற்றார் முகத்திரண்டு புண்ணுடையவர் கல்லாதவர் - Kural 393) As education enlightens a man and enables him to see the world in proper perspective it is rightly considered as the real eyes of human beings.

Characteristics of Good and Bad Students

According to Nannul there are three types of students i.e., the top most, the middle and the lowest. The top most student is compared to a swan. Even as a swan separates the water from milk and drinks only the milk, so also the best students will choose only the best books and avoiding read them, the trash. Such students are also compared to a cow. Even as a cow fills her belly with grass quickly and then chews it at leisure so also the best students will gather knowledge from all possible sources and then digest them by slow reflection over them. The middle type of student is compared to a parrot and soil. Even as the soil yields results only in proportion to the labour put into it, so also the acquisition of knowledge by the middle student will be in proportion to the effort taken by the teacher to put ideas into his brain. Like a parrot he will only repeat what is taught by his teacher. He will lack the capacity for original thinking and learning. The last type of student is compared to a leaking pot a sieve and a buffalo. Even as a leaky pot does not hold the water poured into it, so also the bad student forgets whatever is taught to him. Or like a sieve he will remember only the inessentials. Even as a buffalo muddles the tank and drinks only the muddy

26. கற்றார்க்குச் சென்றவிடமெல்லாம் சிறப்பு ... Pazhamozhi Nanooru - 4

27. கடைநிலத் தோராயினும் கற்றறிந்தார் தலைநிலத்து வைக்கப்படும்.

water, the last type of student will confuse himself and become muddle headed.[28] He will lack clarity.

Education is a rare commodity which should be given only to the needy and not for all. One may take as a student his own son, the son of his teacher, son of the king, one who pays profusely for his education one who can quickly absorb the meanings of the words taught and one who is worshipful to the teacher.[29] The author of Nannul is evidently not for mass education. It is reserved for the intellectual elite. He also gives a list of persons who are unfit to be students and to whom education should not be imparted. They are those youngmen who are mere pleasure seekers, lazy, arrogant, lecherous, given to thieving, sickly, indigent, sensitive, angry, sleepy, dullheaded, afraid of scholarly works, of confused mind, cruel, sinner, lier and cheater.[30]

Characteristics of Good and Bad Teachers

According to Pavanandi Muniver the author of Nannul, an ideal teacher should possess the following characteristics. First of all he must have hailed from a good family. He must possess faith in God and be a man of high principles. He must have clarity of thinking, strength of conviction and resoluteness in speech. He will resemble the earth in, his patience, mountain in his convictions, a balance in his impartiality, and a flower in his smiling countenance. He should possess not only bookish

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28. அன்ன மாவே மண்ணொடு கிளியே
இல்லிக் குடமா டெருமை நெய்யரி
அன்னர் தலையிடை கடைமா ணாக்கர் - Nannul 38

29. தன்மக னாசான் மகனே மன்மகன்
பொருணனி கொடுப்போன் வழிபடு வோனே
உரைகோ ளாளற் குரைப்பது நூலே - Nannul 37

30. களிமடி மானி காமி கள்வன்
பிணிய னேழை பிணக்கன் சினத்தன்
துயில்வோன் மந்தன் றொன்னூற் கஞ்சித்
தடுமா றுளத்தன் தறுகணன் பாவி
படிறனின் னோர்க்குப் பகரார் நூலே - Nannul 39

but also wordly and practical knowledge coupled with high character.[31]

There are some persons who are unfit to the noble profession of a teacher. They are persons without good character, and with base qualities, jealousy, greed, fear and cowardice.[32]

Hall mark of a Good Book

According to Nannul a good book must have a nice introduction. It should possess brevity, clarity, pleasing to recite, capable of being expressed in order, full of sweet sound, depth, practical and capable of producing good results with suitable examples.[33] It also speaks of thirty two devices[34] to be observed in the expression of ideas in a book and also ten errors[35] to be avoided namely understatement, overstatement, repetition, contradiction, use of wrong words, inappropriate words, ambiguity, diversion, slovenly and incapable of producing tangible results.

How to Teach

Nannul prescribes certain rules and regulations for teaching. The teacher must first of all choose the proper place and time

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31. குலனரு டெய்வங் கொள்கை மேன்மை
கலைபயி றெளிவு கட்டுரை வன்மை
நிலமலை நிறைகோல் மலர்நிகர் மாட்சியும்
உலகிய லறிவோ டுயர்குண மினையவும்
அமைபவ னூலுரை யாசிரி யன்னே - Nannul-29

32. மொழிகுண மின்மையு மிழிகுண வியல்பும்
அழுக்கா றவாவஞ்ச மச்ச மாடலும்...
உடையோ ரிலரா சிரியரா குதலே - Nannul - 31.

33. சுருங்கச் சொல்லல் விளங்க வைத்தல்
நவின்றோர்க் கினிமை நன்மொழி புணர்த்தல்
ஓசை யுடைமை ஆழமுடைத் தாதல்
முறையின் வைப்பே யுலக மலையாமை
விழுமியது பயத்தல் விளங்குதா ரணத்த
தாகுத னூலிற் கழகெனும் பத்தே - Nannul - 13

34. Nannul-14

35. Nannul-12

for imparting education. The cool hours of early morning or evening will be the best time for teaching. The place of teaching must be a quiet room or open ground. He should take his seat and pray his God before starting his teaching. He must concentrate and collect all the relevant ideas in his brain and deliver the lectures slowly and steadily. The flow must be neither too fast nor too slow. He should not get angry if the student is not receptive but deliver his lectures always with a smiling face. He should impart only such an amount of information as the student could imbibe and digest. He should not take over the head of students. He should not be crooked but be liberal minded. He should see that whatever he utters impresses the student and goes deep into his mind.[36]

How to Learn

The Nannul also directs the student as to how learn his lessons. He should go to his teacher's house early in the morning and worship him before taking the lessons. He should control his temper and behave in a manner pleasing to the teacher. He should observe the temper of his Guru and sit down for study only when he expresses his willingness to teach and asks him to sit. As soon as he gets the permission from his teacher he should sit erect in front of him like an idol and listen to the lectures with absorbing interest. He should be as anxious to hear the lectures as a hungry man to drink the honey which is poured into his mouth. He should swallow the honey of knowledge through his ears acting as the mouth and store it in his head. He should get up and go only when his Guru asks him to do so.

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36. ஈத லியல்பே யியம்புங் காலைக்
காலமு மிடனும் வாலிதி னோக்கிச்
சிறந்துழி யிருந்துதன் றெய்வம் வாழ்த்தி
உரைக்கப் படும்பொரு ளுள்ளத் தமைத்து
விரையான் வெகுளான் விரும்பி முகமலர்ந்து
கொள்வோன் கொள்வகை யறிந்தவ னுளங்கொளக்
கோட்டமின் மனத்தினூல் கொடுத்த லென்ப - Nannul-36.

How to Study Books

Nannul describes also the various steps in learning from the teacher and the books. A student must first listen to the lectures of his teacher and then read the book and memorize all that he had heard. He should then brose over the memorized material. If he develops any doubt in the process of such reflections, he should at once go to the teacher and clear his doubts. He should then mingle with his classmates and discuss with them the matter that he had learnt. He should indulge in question and answer method while discussing a topic. Thus Kettal (listening) chinthittal (reflection or thinking) and thelithal (getting clarified) are spoken of as the three steps in the learning process. It is nothing but the modern lecture method and seminar method rolled into one. The student is also exhorted to hear the same lessons twice or thrice till he understands them fully. What he hears from the teacher will be only one fourth of the lesson. It will become a full lesson only when he confers with his fellow students and clarifies his doubts by putting questions to them and eliciting answers from them.[38]

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37. கோடன் மரபே கூறுங் காலை
பொழுதொடு சென்று வழிபடன் முனியான்
குணத்தொடு பழகி யவன்குறிப் பிற்சார்ந்
திருவென விருந்து சொல்லெனச் சொல்லிப்
பருகுவ னென்ன வார்வத் தனாகிச்
சித்திரப் பாவையி னத்தக வடங்கிச்
செவிவா யாக நெஞ்சுகள னாகக்
கேட்டவை கேட்டவை விடாதுளத் தமைத்துப்
போவெனப் போத லென்மனார் புலவர்.

— Nannul - 40

38. நூல்பயி லியல்பே நுவலின்வழக் கறிதல்
பாடம் போற்றல் கேட்டவை நினைத்தல்
ஆசாற் சாந்தவை அமைவரக் கேட்டல்
அம்மாண் புடையோர் தம்மொடு பயிறல்
வினாதல் வினாயவை விடுத்த லென்றிவை
கடனாக் கொளினே மடநனி யிகக்கும்.

— Nannul - 41

Also Nannul - 42

Thus we find the Gurukula system of education being advocated by Pavanthi Munivar the author of Nannul. In this system the house or the monastery of the teacher will be the school. The students may be either living in the house of the teacher or in a nearby house of his own, so that he could go early in the morning to the teachers house, sit at his feet and learn the lessons from him. Teaching was done through recitation of the text followed by explanation of its meaning. Then it was followed by individual thinking and group discussion. Sometimes the senior students clarified the doubts of the juniors. Only as a last resort students went to the teacher for clearing their doubts. Whatever was learnt from the teacher was committed to memory though of course it was preceded by proper understanding.

The Jains and Buddhists stressed the importance of ethical and theological learning for the monks and nuns though lay people were allowed to learn other mundane subjects which would fetch them wealth and wordly pleasure. They laid particular emphasis on moral and spiritual education because they wanted the students to have a reality. Man-making education as envisaged by Swami Vivekananda.

Teachers, Students and Teaching-Learning Process in ancient Tamil Educational System

— *Dr. (Mrs.) J. K. PILLAI*

"By education the Tamils meat, a development of capacity to understand, think and reflect; that the goal of learning should be regulation of conduct and attainment of virtues. knowledge received through the ear was considered the best Grammar rules and arithmetic tables were in crisp concisely expressed verses and memorizing them was an important activity of learning. We may infer from the references that all subjects like biological sciences, botany, agricultural sciences, economics, medical sciences, science of architecture, painting, music, dance, etc., were taught in higher institutions of learing."

F. K. Keay (1959) in his book 'A History of Education in India and Pakistan' states - "There was, in ancient times in South India, a system of education connected with Tamil culture as distinguished from the Aryan culture which came from North India. This is emphasised by the existence in early days of Tamil geometrical works and highly developed poetry and other evidences of cultural activities".

What was this system of education connected with Tamil culture?

The available literary sources which give us some idea about the life, philosophy and education of the ancient Tamils are - The ancient grammar work of Tholkappiam, the Sangam literature comprising the collections of the Ten Idylls known as Pathupattu and the eight anthologies known as Ettuthogai, the eighteen minor works, the most informative of them being Kural, the

epic literature of Silapathikaram and Manimekalai, the Bhakthi literature of ihe Nayanmars and Alwars and the grammar book of Nannul.

Life and Philosophy of Ancient Tamils

We find that the country was divided into four main regions, namely, the pastoral region called mullai, hilly region called kurinji, arable land called marutham, and the coastal belt, neydal. The society was divided on the basis of occupation, the mullai people engaged in cattle breeding and tapping forest wealth, the kurinji inhabitants essentially hunters who tapped hill wealth, the marutham people primarily agriculturists who were also engaged in weaving and the neydal people who lived near the coasts concentrated on fishing, boat building, salt breeding and trade. Each land had its own chieftains and usually the chief of the fertile marutham land conquered the rest and brought them under a kingdom. The main kingdoms were the Chera, Chola and the Pandiyas.

The social philosophy of the Tamils as depicted in the early Tamil literature is the concept of universal Brotherhood. The striking message of Kanian Pungunrannar, the mathematician poet in Purananooru is,

"To us all towns are one,
All men our kins"[1]

That an educated person is above all differences and narrow prejudices and education is a valuable means to bring about increased brotherhood is brought out in almost all the literature from Sangam age to the modern period.

Valluvar asks, "when it is known that an educated person would be welcome in any town in any land, why is it that people do not take to life long study"?[2].

Appar, the learned Nayanmar of the 7th century A.D. warns the people against caste, creed and religious differences and exhorts them to become one with God.[3]

Avvai in her Moothurai of about 900 A.D. says that an educated man would be honoured not only in his land but wherevar he goes.[4]

The aim of life was to attain God's feet, thus achieving the state of birthlessness. Kural says,

"They only pass of all who swim
the sea of birth who cleave to Him".[5]

To attain this state of birthlessness, Valluvar says one has to lead a life of self control ; learning would lead to God's feet as God is supreme knowledge. Realization of God through self realization is the ultimate aim of life and education.[6]

In Ainkurunooru, one of the eighteen minor works, we come across the idea that it is possible to attain self realization through living an ordinary life of a householder, facing trials and tribulations and enjoying the pleasures of family life.[7] The virtues extolled in Sangam literature are generosity, valour, true love, appreciation of beauty, justice, fidelity, loyalty, devotion and equanimity. The philosophy and the virtues extolled by the ancient Tamils directed the formulation of aims in education, the choice of studies, the role of the teachers and students and the teaching-learning methods.

Education was considered as a life long process. Valluvar advocates perpetual acquisition of knowledge. He says that just as water springs more and more in the well as water is drawn out, knowledge develops more only when it is used and spread to other people.[8] Learning is the only imperishable wealth.[9]

Naladi says that there is no other medicine like learning for removing the delusions of sense; learning yields fruit in this life itself; it does not grow less as you give it to others; it makes men illustrious; it does not perish as long as one lives.[10]

From the earliest Sangam literature, down the ages, we find that the Tamils attached great importance to learning and knowledge.

The great Pandya king Nedunchezhiyan, a learned scholar, advises all his subjects to realise the importance of learning. He says that it is worth encountering any amount of difficulties, spending any amount of money to get the benefits of education. He says that he would invite educated men to become his advisers and not necessarily the older men."[11]

Thiruvalluvar devotes five entire chapters to education and learning. He says that learned alone are said to possess eyes while in respect of the unlettered the eyes are but sores.[12]

Iniyavai Narpathu, one of the eighteen minor works confirms the importance of learning when it says "It is good to learn even if you have to take to begging."[13]

According to Kural, knowledge is that which helps the individual to adjust to the society;[14] it is that which would give a capacity to anticipate and foresee.[15] Knowledge is the weapon which saves one from evil; it forms a rampant which cannot be destroyed by the foe. Real knowledge is that which is crystallized by one's own thought, understanding and reflection,[16]

Naladi advises the learners to learn with clear discrimination like the swan which separates the milk from water.[17]

Sirupanchamoolam emphasizes that the goal of learning should be developement of disciplined mind.

Thus we find that by education the Tamils meant, a development of capacity to understand; think and reflect; that the goal of learning should be regulation of conduct and attainment of virtues.

The awareness of the importance of education in the ancient period indicates that education must have been popular and wide spread. A poem in Puram states that it is the duty of father to educate his son so that he will become virtuous.[18] The same idea is repeated in Kural as 'the best inheritance a father can provide for his son is an education that will fit him to take an honoured place among cultured men.[19] We find Valluvar advocating education for all people, he says even the high born, if they are ignorant, sick low in the scale,while the learned even of humble birth are exalted.[20]

The System of Education

Curriculum: The two broad divisions of knowledge we come across in the entire literature are 'En' and 'Eluthu.' 'En' includes all science especially that of measurement; it is the science of cognition, insight and understanding, synonymous with today's 'ariviyal'. Eluthu includes all arts, especially language and literature i.e., conation and affect, the branch that will help the individual to feel and therefore act.

Valluvar says that both these branches of knowledge are as necessary as the two eyes to life.[21] Appar in his Thevaram says that these two branches are God Himself.[22]

In the early period, Tamil, the mother tongue, the spoken, living language of the people was the subject of study as well as medium of instruction. Tholkappium refers to the three broad divisions of Tamil study, namely, Muttamil of Isai, Iyal and Natakam, i.e., prose, poetry and drama.

Techniques of Teaching: Knowledge received through the ear was considered the best. Valluvar stresses the value of acquiring knowledge through listening to the wise when he says 'Though denied of learning, let one fill one's ears with knowledge; it is his support in his hour of gloom.[23] Oral instruction was the method of teaching played an important part and training of memory was given more scope. We also find teaching of writing was started along with listening and reading. Writing was done on seasoned palmyra leaves with the aid of a pointed iron style. The beginners started with tracing of letters on sand or rice and then seasoned banana leaves were used for childrens of tender age.

Several leaves of palmyra containing material on one subject were held together by a cord strung together through holes in the left hand corner of the palmyra leaves and this was called Suvadi or Nul, corresponding to the modern book. The importance of commencing education at an early age was recognised by the Tamils. Avvai's Athichoodi advises learners as follows:

Learn while young.

En and Eluthu claim esteem.

Learn all sciences.

Cease not to learn.

A basic rudimentary knowledge of letters and numbers was taught to all children of the village from the age of five years in the schools called 'pyal schools' or 'thinnai Palli'. The schools were conducted in the Kanakkayar or teacher's verandah in front of the house. The teacher was usually called the Kanakkayar, and 'eluthu' was sometimes known as 'nedunkanaku' i.e., longer arithmetic. Grammar rules and arithmetic tables were in crisp concisely expressed verses and memorizing them was an important activity of learning.

A monitorial system of pairing advanced pupils to less advanced ones was followed and this helped the single teacher to handle many students of all ages and stages in one room. This seems to have continued well into the 19th century and a reference has been made by Sir Thomas Munroe in 1822 and this inexpensive monitorial system was introduced in England by Andrew Bell, for expansion of primary education in that country.

In the pyal schools, a good grounding in numerical notations was given. Arithmetic for practical use in every day life, including tables of fractions was taught. Knowledge of stars, planets and their movements and their applications for finding time and directions was taught.

There is reference in Tholkappiam to Vuyirnool, Thavaranool, Payirnool i.e., biological sciences, botany and agricultural sciences. There is mention of Porulpurinool i.e., economics, marutuvanool, i.e., medical sciences, silpa nool, i.e. science of architecture, oviya nool, i.e., painting, isai nool, i.e., science of music, nattiya nool, i.e., science of dancing.

We may infer from these references that all these subjects were taught in higher institutions of leaning.

Purananooru gives a very good picture about the knowledge of geography among the Tamils. There is reference to Porkotti-

mayam i.e., Kanchenjunga, Pani padu nedu varai, i.e., Himalayas, Bay of Bengal, Arabian Sea etc.

Teachers: There is ample proof right from the days of the Sangam down to the 19th century that there was no village without a teacher. Tirikadugam of the eighteen minor works compares a village without a teacher to an assembly without scholars and a people not offering hospitality.[24]

The teacher was usually called as the kanakkayar. But there are other terms used to refer to different types of teachers, such as palasiriyar, ilam palasiriyar, uvathiyayar, asiriyar, asan and kulapathi. These designations indicate the distinction between teachers of young children and teachers of higher learning. Kulapathi most probably refers to the teacher of the royal household.

We also come across some mention of some poets having disciples though explicit mention of the celebrated system of gurukula of North India is not there.

There is mention of 'othal pirivu' i.e., married scholars continuing their education with a teacher at a distant place and hence seperated from their wives.

After the advent of the Bhudhists and Jains from the north, we hear of literary tournaments, scholars putting up flags, challenging other learned scholars and shouting 'navalo-naval'.

When Sanskrit learning was given royal patronage during the Pallava period, the higher educational institutions such as Ghatikas and temple colleges started spreading vedic learning. But Tamil learning did not die out and the Tamil poets and teachers took to nonformal methods of spreading Tamil learning. The devotional lyric poems of the Nayanmars and Alwars in simple language brought education and religion to the common man.

Buddhists established Viharas and the Jains established pallis and the respective monks and nuns were invariably the teachers. The institutions were residential in nature and they

contributed to mass education as well as specialized spiritual and scientific learning.

Qualifications were prescribed for teachers of Jaina literature. They were expected to be selfless, possession-less, real servants of religion ; they were to act as spiritual guides, teachers, advisers and physicians. The Jains believed in teaching their doctrines in the vernacular language. From the Jain inscription in Kalugumalai, we find that there was co-education in the Jaina pallis, and there were lady nun teachers called kurathiar.

The Jaina author Pavanandi adigal in his treatise on Tamil grammar, Nanul, in the 13th century prescribes qualifications for good teachers, good students and the rules and regulations to be adopted for teaching and learning.

A good teacher 'nallasiriyan' should come from a good family, should be kind hearted and have abundant faith in god. He should be well read, should have the ability to impart knowledge in an orderly manner so that the students can understand him. In patience he should be like the good earth, in nobility and steadfastness like a high rock and impartial and just like a balance. The good teacher is indispensable in all good occasions like the flower is. He is respected, loved, admired for his good characteristics just as the flower is appreciated and admired for its beauty, fragrance and auspicious character. The most important qualification of the teacher is that he should teach according to the grasping power and the standard of the students and gradually help them express themselves.

Those who do not possess the capacity for teaching, those who are prone to misconduct, those who have excessive desires and jealousy are unfit for the teaching profession.

It is stressed that the duty of the teacher is first of all to educate his son; only those who have the capacity to be benefitted by teaching should be admitted as students. The poor who cannot afford to pay the teacher may do some personal service to the teacher and learn,

The author compares a good student to a swan and a cow. Just as the swan separates the milk from water and drinks the milk only, the good students separates facts from faults, truth from untruth and essentials from unessentials. Just as the cow, when she finds rich pasture, eats to her full and then chews it little by little, the good student in the company of good scholars, collects all the good that he can and then takes his own time to reflect on it and assimilate it.

An average student is like the soil and the parrot. Just as the soil yields in porportion to the effort put in by the cultivator, the average student is able to grasp only what the teacher teaches him and like a parrot, repeat what he is taught. The third type of the student, like a leaky jug, forgets whatever is taught to him, and holds nothing. Like a goat, goes from teacher to teacher and learns nothing in the end. The bad student confuses the teacher as well as himself just as a buffalo muddles the tank water and drinks the muddy water.

According to Nannul, the lazy, unintelligent, arrogant, sick, sleepy and dull people are unfit for studentship.

Nannul prescribes that the study should start at pleasant cool hours in the morning after prayers. The teacher must come prepared well in advance; he should teach the students according to their abilities; he should control his temper while teaching.

The student should attend the classes in time and be sincere to his studies. In the classroom, he should be calm and silent. He should leave the class only when permitted by the teacher.

The vital elements of the teaching-learning process, according to Nannul are reciting - listening, questioning-answering, narrating-repeating, thinking-reflecting and investigating-discussing.

It is said that listening to a lecture is only one quarter of learning; the rest of the three quarters are fulfilled by discussion with other students, asking questions, answering questions and reflecting.

High moral character and kindness to the students were demanded of the teachers. The student was expected to pay high respect and obedience to his teacher. It was also said that the student should follow his teacher like his shadow as teaching was not confined to the four walls of the class. Students were expected to learn useful lessons, from the teacher at all situations.

We also find that there was no antithesis between general education and vocational or aesthetic education.

A general education of language and literature was pursued by all classes of people and we find Sangam poets were drawn from all classes of society. Training in agriculture, the art of weaving, cattle breeding, wood work, stone work, smithy, metallurgy etc., was given by domestic apprenticeship and thus the dexterity and skill of each particular art and craft was handed down from generation to generation.

There were also 'adalasiriyar' and 'isai asiriyar' for dance and music, In Silappathikaram it is mentioned that training in dancing was given to Madhavi for seven years from the age of five according to the prescribed rules by a team of teachers. of dance, music, various instruments and composer of songs.

In Tholkappiam there is reference to show that there was formal training and systematic instruction for 'Kuthu' or drama. Training for painting, sculpture and architecture also was by apprenticeship system.

Summarizing, we can say, that in ancient Tamil Nadu, the aims of education were formation of character, training of the mind to acquire discrimination and wisdom, development of personality for social efficiency and attainment of liberation.

Education was considered as life and therefore a process of preparation for life. Hence a combination of general and vocational education was prescribed for all children of all people.

Education was open to both boys and girls and it was not an exclusive privileage of any section of the society.

Ancient Tamils realized the importance of learning and paid great respect to the teachers. Listening to wise men, 'kelvi' of oral tradition was considered as a very effective method of instruction. Understanding and reflecting on what is heard and read would lead to true knowledge.

The homes of teachers and learned pandits were institutions of learning and functioned as schools and libraries; kings and cheiftains extended patronage to these learned scholars. Scholars were required to prove their worth institutions of advanced instruction like Avai, Kudal or Sangam. Training for vocation and profession was mostly by apprenticeship system and a high standard of arts and crafts was maintained by the master teachers.

When royal patronage started being more partial to Sanskrit studies, importance of Tamil studies was minimized but Tamil studies was kept alive in a modest way by the teachers and students and there was steady flow of Tamil works throughout the period.

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   பாத்தி ரம்சிவம் என்று பணிதிரேல்
   யாத்தி ரைக்குள் அருளும் மாறீ பேரரே.

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   மன்னனும் மாசறக் கற்றோனும் சீர்தூக்கின்
   மன்னனிற் கற்றோன் சிறப்புடையன் — மன்னனுக்குத்
   தன்தேச மல்லாது சிறப்பில்லை, கற்றோர்க்குச்
   சென்றவிட மெல்லாஞ் சிறப்பு.

5. Kural 10

பிறவிப் பெருங்கடல் நீந்துவர் நீந்தார்
இறைவ னடிசேரா தார்.

6. Kural 356

கற்றீண்டு மெய்ப்பொருள் கண்டார் தலைப்படுவர்
மற்றீண்டு வாரா நெறி.

7, Ainkurunooru 410

8. Kural 396

தொட்டனைத்து ஊறும் மணற்கேணி மாந்தர்க்குக்
கற்றனைத்து ஊறும் அறிவு.

9. Kural 398

ஒருமைக்கண் தான்கற்ற கல்வி ஒருவற்கு
எழுமையும் ஏமாப்பு உடைத்து.

10. Naladi 132

இம்மை பயக்குமால், ஈயக் குறைவின்றால்
தம்மை விளக்குமால் தாம்உணராக் கேடின்றால்
எம்மை உலகத்தும் யாம்காணோம் கல்விபோல்
மம்மர் அறுக்கு மருந்து.

11. Puram 183

''ஊற்றுழி உதவியும் உறுபொருள் கொடுத்தும்
பிற்றைநிலை முனியாது கற்றல் நன்றே''
''ஒருகுடிப் பிறந்த பல்லோருள்ளும் — மூத்தோன்
வருக என்னாது அவருள் அறிவுடையோன்
ஆறு அரசும் செல்லும்'',

12. Kural 393

கண்ணுடையர் என்பவர் கற்றோர் முகத்திரண்டு
புண்ணுடையர் கல்லா தவர்.

13. Iniyavai Narpathu 2

பிச்சை புக்காயினும் கற்றல் இனிதே

14. Kural 426

எவ்வது உறைவது உலகம் உலகத்தோடு
அவ்வது உறைவது அறிவு

15. Kural 427

அறிவுடையார் ஆவது அறிவார் அறிவிலார்
அஃதுஅறி கல்லா தவர்.

16. Kural 423

எப்பொருள் யார்யார்வாய்க் கேட்பினும் அப்பொருள்
மெய்ப்பொருள் காண்ப தறிவு.

17. Naladi 135

கல்வி கரையில கற்பவர் நாட்சில
மெல்ல நினைக்கிற் பிணிபல — தெள்ளிதின்
ஆராய்ந்தமை வுடைய கற்பவே நீர்ஒழியப்
பால்உண் குருகிற் றெறிந்து.

18. Puram 312

சான்றோ னாக்குதல் தந்தைக்குக் கடனே

19. Kural 67

தந்தை மகற்காற்றும் நன்றி அவையத்து
முந்தி யிருப்பச் செயல்.

20. Kural 409

மேற்பிறந்தார் ஆயினும் கல்லாதார் கீழ்ப்பிறந்தும்
கற்றோர் அனைத்திலர் பாடு.

21. Kural 392

எண்என்ப ஏனை எழுத்தென்ப இவ்விரண்டும்
கண்என்ப வாழும் உயிர்க்கு.

22. Thevaram, Appar 6 - 485

''எண்அவன் காண் எழுத்தவன் காண்
இன்பக் கேள்வி இசையவன் காண்''.

23. Kural 414

கற்றிலன் ஆயினும் கேட்க அஃது ஒருவற்கு
ஒற்கத்தின் ஊற்றாம் துணை.

24. Tirikadugam 1

கணக்காயர் இல்லாத ஊரும் பிணக்கறுக்கும்
மூத்தோரை இல்லா அவைக்களனும் — பாத்துண்ணும்
தன்மை யிலாளர் அயலிருப்பும் இம்மூன்றும்
நன்மை பயத்தல் இல.

Jaina Pallis and Education in Medieval South India

Dr. S. GURUMURTHY

"Palli in Tamil Country may be taken to mean a school, but in the Jaina or Buddhist order, it may stand for a temple or a monastery. There are hundreds of inscriptions which record the grant of lands as Palliccandam to a number of Jaina institutions ranging from the beginning of the christian era down to the end of the Vijayanagar rule in the south. In this connection, it may well be pointed out that numerous Jaina establishments were veritable centres of learning and served as great Vidyapithas from which emanated the light of knowledge which contributed to mass education."

Jaina and Buddhist monasteries were known as Pallis in Tamilnadu and there are many references to the existence and establishment of the same in the Sangam literature as well as in the medieval inscriptions of the Pallavas, Cholas, Pandyas, Hoysalas and Vijayanagaras of South India. The Jaina monasteries were known as *Jaina Pallis* and they served not only as abodes of Jaina monks and nuns but also as chief centres of Jaina culture and education. These establishments received patronage both from the ruling families as well as from the wealthy merchant communities irrespective of their caste and creed.

The Jaina Pallis accommodated both monks and nuns and they were well versed not only in the Jaina literature and sculptures but also in other secular subjects such as astrology, astronomy, medicine etc., They propagated not only the Jaina philosophy but also education and learning.

The Jaina system of education included some unusual features like co-education, animal husbandry, study of sanskrit literature, grammar etc.,

Let us now examine the role of such Jaina Pallis in the propagation of literacy in the light of inscriptions. Numerous Jaina and non-Jaina inscriptions have brought to light a volume of information which helps historians to estimate the contribution made by Jainism to the progress of South Indian culture. But, most of them do not give sufficient information on the Jaina system of learning in South India unlike the epigraphical records which refer to the existence of Temple-Colleges in medieval times. However, the inscriptions provide us with knowledge of the existence of Jaina monasteries, teachers, and their activities throughout the land and the amount of royal patronage and public support extended for the maintenance of the same.

The existence and influence of Jainism in the Tamil country prior to the dawn of the Christian era is well borneout by a number of natural caverns with Brahmi inscription which once served as the abodes of Jaina ascetics. Besides the caves, there are also certain literary works like the Silappadikaram and the Manimekalai which contain references to a number of Jaina centres in the Tamil country, during the first few centuries of the Christian era. The continuance of the religion after the close of the Sangam age in the Tamil country, even during the Kalabhra rule in the land and later, is well attested by the literary works like Tevaram, Periyapuranam etc., besides numerous epigraphs of the Cholas, Gangas, Pandyas and other dynasties of South India. The influence of Jainism and its contribution to Tamil culture may be gleaned from the large number of literary works written in Tamil by Jaina authors during the period.

Jainism in Karnataka

Saletore observes from a fugitive point, Jainism became gradually the dominant religion of Karnataka; and for nearly twelve centuries (second century to thirteenth century A.D.) it guided the fortunes of some of the most powerful and well

known Karnataka royal families". It is true that the Jainas were not merely the exponents of dogmas but acted as great champions and founders of kingdoms. Their earliest political creation was the Ganga kingdom of the South. Even after the extinction of the Ganga dynasty, Jainism survived and continued under the influence of the two great powers, the Kadambas and Rastrakutas. The rulers of these dynasties were great patrons of Jainism and made liberal grants and endowments for the establishment of Jaina institution. Kakusthavarman of the Kadamba family was an ardent follower of the creed. Similarly in the Rastrakuta family Dantidurga honoured one of the greatest figures in all Jaina history, Akalanka (8th century) and also Krishna III and Amoghavarsa IV figured as great champions for the cause and promotion of the religion. During the days of the Western Chalukyas, it is said that the great Jaina guru Vadirajasuri received a certificate of Victory (Jayapatra) from Jayasimha III. An inscription praising the guru records that "to gain the victory over the crowd of boasters in the assembly was a delight of Vadirajasuri and to write and give him a certiticate of victory was delight to the emperor Jayasimha.

The Western Chalukyas ruled for about six centuries and towards the end ot the 12th century, two new powers came to the front, the Hoysalas and Yadavas. The Hoysala Kingdom is considered to be the second creation of Jaina wisdom, Saletore says "twice, therefore had Jainism, which for ages had stood for ahimsa, cause political generation in the land before the rise of Vijayanagara once in the first or second century and then again in the 11th century A.D. It is here we have to see that Jainism acted not merely as a religion or faith but more than that as a force which produced great leaders and writers in philosophy and admirable men and women in the field of writing. Besides the rulers, there were also certain feudatories who shared their responsibility towards the promotion of Jaina culture from the 8th century down to the end of the 13th century A.D. The Jainas also received patronage from respectable citizens and trade corporations. For instance the great commercial association called the 500 Svamis of Ayyavole made

liberal contribution for founding institutions of Jaina faith.

Thus, the history of Jainism had a powerful impact and influence on the history and culture of tha Karnataka region right from the 2nd century A.D. and it may even be said that its history had an inseparable part in the history of some of the powerful dynasties which held sway over Karnataka. During the period, numerous Jaina institutions were established throughout the country which stood for the promotion of dharma, ahimsa education and welfare and uplift of the nation.

Jaina System of Education

Sources

We are able to gather some details regarding the Jaina system of learning from the literature, though not from epigraphical records. No doubt there are a few inscriptions which furnish some information with regard to certain Jaina centres of learning and the scholarship and attainment of proficiency of numerous monks and nuns in various branches of literature. It is only literature that comes to our help in tracing some of the fundamental principles and factors of the Jaina system of learning and the organisation of their church life and study.

Palliccandam

Palliccandam is generally taken to mean a grant of tax-free land either to Jaina establishment or a Buddhist monastery. Palli in Tamil country may be taken to mean a school, but in the Jaina or Buddhist order, it may stand for a temple or a monastery (which was also a school or a college). There are hundreds of inscriptions which record the grant of lands as Palliccandam to a number of Jaina institutions ranging from the beginning of the Christian era down to the end of the Vijayanagar rule in the south.

Jaina Pallis

As in the case of Buddhist education, in the Jaina system too the Jaina pallis played a prominent role as centres of education, consisting of a large number of monks, nuns and

students. The Jaina monasteries were residential colleges, the members of which were provided with food, clothes, medicine and other facilities that were needed in their day to day life. The strength of monks residing in the monasteries sometimes runs to hundreds and even thousands. For example, it is gathered from an inscription from Tirunarunkondai (South Arcot district) that the Jaina temple in the place was called Narpattennayirapperumpalli which may probably refer to the 48,000 monks residing in the palli. We also hear of the Jaina Matha at Sirramur (S.A. District) which had a valuable collection of palm-leaf manuscripts which clearly indicate the educative value of the Jaina mathas. In this connection, it may well be pointed out that numerous Jaina establishments were veritable centres of learning and served as great Vidyapithas from which emanated the light of knowledge which contributed to mass education and also gave specialised instruction to persons of royal families and of higher classes.

Jaina Monks

The Jaina monks were the pivot of the Jaina system of education. The Jaina nuns also took equal share and served as great spiritual guides. The spread of Jainism and the promotion of education were entirely in the hands of these monks and nuns, who were all highly educated and versed in many lores. The monk was regarded as a symbol of learning and a scholar Par-excellence. P.B. Desi, has observed "more than anything else, the role played by the Jaina monks in the realm of learning is supreme and ever shining. He educated the rising generations from the rudimentary knowledge of three R's to the highest levels of literacy and scientific studies. He initiated the intellegentisia into the mysteries of literary art and inspired their creative genius. All this produced epoch making results as witnessed by posterity. Some of the best and earliest literary productions in South India are from the Jaina poets and authors. The torch of learning once lit was incessantly held aloft and radiant. What the author has observed may well be proved in the light of some of the descriptive passages occuring in some of the Jaina inscriptions, which are highly in praise of the

educational qualifications of some of the Jaina teacher of the South. In some of the inscriptions, the individual teachers are alone mentioned, while in others, details of their spiritual lineage are narrated to some extent. Though there are numerous records which describe the learning of the Jaina teachers, let us take one or two of them to serve our purpose and study. In an inscription of 1024 A.D. from Marol, the learning of the Jaina teacher Anantavira-muni is described as having comprised all Vyākarana, Nighaṇtu, (lexicon), Gaṇita (mathematics), Vātsyayana (erotics), Jyotisa, Sakuna (augury), Chandas (prosody), Manu (law), Gandharva (music), Alankāra (rhetoric), Mahākāvyanaya-nataka (poetry and drama), Adhyātmika (philosophy), Arthasāstra (Politics), Siddhanta and Pramana. Another inscription assignable to the middle of 11th century A.D. from Mulgand mentions two Jaina grammarians Narendrasena and his pupil Nayasena, who were proficient in many systems of grammar like Candra, Kātantra Jainendra, Sabdānusāsana of Sakatāyana, Pāninīya, Aindra and Kaumara. The king Kulottunga III bestowed the honour of the title Cakravarti on a certain Jaina ācārya of Kottaiyur as a token of his appreciation of the guru's learning and work. Thus, the intellectual attainments of these ācāryas as gleaned from inscriptions bear out the statement made with regard to the qualifications prescribed for teachers in Jaina canonical literature. They were all selfless, possessionless and real servants of religion, goddess Sarasvati and humanity. They acted as spiritual guides, confessors, teachers, advisers, physicians and even astrologers. The main reason for the successful spread of Jainism in the South was the attitude of the monks who moved so freely with the common people, mastered the languages of the regions in which they dwelt and believed in teaching their doctrines in the vernacular languages. They had completely identified themselves with the local population of various regions. The numerous Sanghas and other church units of the digambaras were in fact named after place names. The names of the Dravida, Kanchi and Koluttura-sanghas themselves suggest that they were all named after place names.

System of Learning

Supplying food and other necessaries of life to guru, food

and protection to the destitute, protection of life of all beings, medicine and medical aid to the needy and means of education and knowledge in the form of scriptures books, schools, colleges and scholarships to all are some of the salient features of Jainism, which made the creed popular with all classes of people. This system also fulfilled all the higher philanthropic, humanitarian, moral and intellectual needs of society. It is true that Jainism and its men strove hard for the promotion of educational activities among the masses and for the uplift of the poor in the country.

Co-Education

Numerous inscriptions from the South point to one of the most salient feactures of Jaina system of education i.e. the system of co-education run by the monasteries. The Jaina manachism gave all support and encouragement to the promotion of woman's education in the country. Women were highly respected and allowed to occupy high positions in the monastic order. Besides being students and teachers they also took part in the administration of Jaina establishments. In one of the Karnataka inscriptions, there is mention of a certain Jaina nun by name Huliyabhajjike, who was the disciple of Sirinandi, who was in charge of the Jaina temple constructed by Baladevayya at Saratavura (modern Soratur). As a rule, the male members of the monastic order were alone allowed to occupy such a position, hence this is interesting information which throws light on the role of women in the Jaina monastic life. Both men and women were allowed to stay and study the Jaina scriptures in the monasteries. There were also both men and women teachers; instances in which male students studying under a female teacher and female students studying under an ācārya are met with in the inscriptions mostly coming from the Tamil country. The Jaina inscriptions from Kalugumalai a famous centre of Jainism are the best examples in which we find references to teachers and taught belonging to both sex, which bear testimony to the system of co-education prevalent in the monastic order in South India. In the monastery at Vedal, there were about 500 students, studying under a lady teacher, Kanakavira Kurattiyar,

who was a student of Gunakirthi Bhatara. Thus, these inscriptions give us an idea to peep into the educational system which would necessarily have been advanced one. In the Karnataka country also we hear of the Jaina nuns entertaining men as their disciples as in the Tamil country.

Nunnery

Apart from the institutions consisting of men and women, it seems, there were also separate institutions specially meant for the promotion of woman's education. They are called in the records Penpaḷḷis which simply meant schools (Paḷḷi) for women (pen) students; one such institution flourished at Vilapakkam during the first half of the tenth century A.D.

Teachers and Students

The Jaina male teacher was called bhatāra and sometimes ācārya which means he was a great scholar. The lady teacher was known by the term Kuratti. The male students were called māṇākkār. The women students were called māṇānkkiyar and Piḷḷaikal.

Strength of Students

It seems there was no strict rule regarding the number of students studying under one teacher. In the monastery at Vedal about 500 students are said to have studied under one teacher and in the Velapakkam pallai there were about 24 students who were kept under the control of a single teacher. It seems therefore, that a teacher could enroll as many students as he or she was able to conveniently manage.

Place of Study

The place of study was called nisihiya and it was to be devoid of living beings and disturbing agencies. The nisihiyas were nothing but monasteries which were generally situated in the outskirts of towns and cities, avoiding all sorts of disturbances.

Time of Study

According to the Jaina texts, the first and the fourth periods of the day were deemed fit for study. The study was suspended on certain unhappy or mourning days like the one when the ruler or a prominent person died. Study was also not conducted when there was lightning, eclipse of the moon or the sun.

Method of Study

The Jaina system of learning consisted of the following important aspects.

1. Recital of the sacred texts (vāyaṇā)
2. Questioning about the difficulties (puchchaṇā)
3. Repetition of the texts (pariyattana)
4. Thinking over it (anuppena)
5. Participating in religious discourses (dharmakatra)

These were some of the fundamental principles on which the whole Jaina system of education was based and oriented. More or less similar methods of study are also suggested by the famous Jaina author of the Chola period Pavanandi who has written a work on Tamil grammar, the Nannul.

Aim of Study

There are five reasons mentioned in the Naya text to explain why students are to be taught the sacred books which are found suitable to all systems of learning. They are given below:

1. To equip the students with scriptural knowledge
2. To increase the followers or the disciples
3. For the disipation of karma
4. To acquire the knowledge of culture and tradition
5. To save the knowledge of the texts from extinction

Thus, the system had its own merits, which provided an opportunity to increase the number of followers and students

as much as possible not only to propagate the doctrines of Jainism but also to save the country from the darkness of sin and illiteracy as also to retain the glory of the past namely the cultural heritage of the country.

Subjects of Study

With regard to the subjects studied in the monasteries, the Jaina inscriptions are silent; however there is a reference to the study of Jaina scriptures and Siddhantam with regard to the monastery at Kalugumalai. Astrology formed one of the subjects studied by the monks. The Jaina monks had mastered astrology and astronomy to the extent that gave them an opportunity to command respect even from ruling sovereigns. The Kadba plates of Govinda III record that a grant of certain land was made in favour of a Jaina matha because its head had removed the evil influences of Saturn from which a certain feudatory prince was suffering. Sridharacarya, a Jaina poet, claims to be the first writer in Kannada in JyotisaŚastra. He wrote the work Jātakatilaka which deals with astronomy and astrology. Besides this information, the educational qualifications and the literary attainments of some of the Jaina monks in various lores which we have already discussed may give us indirect clue to the subjects of study undertaken in the monasteries. They not only mastered the subjects of religious importance but also took interest in the study of secular subjects like grammar, lexicon, prosody, mathematics, besides fine arts and other useful arts. A volume of works has been produced on these subjects in various languages Tamil, Kannada and Sanskrit. The famous Jaina preceptor, Bhattakalanka, who had flourished in the 6th century A.D. for instance, is said to have been well versed in a number of subjects religious secular and fine arts. He is said to have possessed mastery in grammar, poetics, prosody, drama, polity, astronomy, medicine, music, dance, architecture, mantra and tantra. He was also a great exponent and scholar in these fields of literature. Therefore, his attainments and scholarship in various subjects make us believe that the monastic institutions would have provided instruction only in the religious dogma of their own but also in secular subjects and fine arts. It is also equally interesting to note that an inscription in Pallava

Grantha and Tamil, found at Malayakkovil mentions a Jaina teacher by name Gunasena, who was a great exponent of the art of music. The inscription contains a lable parivadinida below which are described Gunasēnabrahmanaceyda Vidya. Parivadini is an old kind of Vina with seven strings. It is also believed that the musical compositions of the Kudumiyanmalai and Tirumayyam inscriptions were all based on the treatise invented by Gunasena.

Relation between the Teacher and the students

A good student must show respect to and have implicit faith in his teacher. The teacher in turn must do all that was needed for the students, during their stay at the monastery. The relationship between them in general appears to have been very cordial and modest.

Debates and Discussions

Philosophical and literary discussions were held in many parts of the country during the period from the 5th century A.D., which was also considered to be a flourishing period in the history of Jainism atleast in South India. Though the discussions were quite hot, all the creeds wholeheartedly co-operated in accepting the victory or the defeat in a sportsman like spirit.

The disputation in ancient times was a mode of education which exhibited the scholarship and the literary attainments of the scholars of different creeds. These disputations were held in prominent public places in the city. Before the beginning of any disputation, a drum would be fixed in the place in which the discussions were to be carried on and any scholar wishing to propagate a doctrine or prove his erudicion and skill in debate would strike it by way of challenge to disputation. The disputations were carried on in famous viharas and monasteries. The disputations held by men of Jaina faith contributed much to make Jainism in South India reach its zenity.

Both literary and epigraphical sources point to the oratorical power and skill in debates of a large number of Jaina ascetic

scholars of the times. To mention a few of them, Svami Samantabhadra deserves our attention first. His appearance in the south makes an epoch not only in the annals of Digambara tradition, but also in the history of Sanskrit literature. He was one of the prominent gurus of early times and a brilliant disputant. It is said that he was the first orator to give an authoritative exposition of the Syādvāda doctrine. He was closely associated with the Karnataka region. According to one tradition, he is said to have secured the conversion of Sivakoti of Kanchi to Jainism. He is believed to have had discussions in various places Pataliputra, Malava, Sindh, Thaka, (the Punjab) Kanchi and Vidisa (Bhilsa). With regard to his date, there floats a lot of controversy and conflicting views; but he is believed to have lived in the 2nd century A.D. Pujyapada, another scholar (7th century A.D.) travelled throughout South India and held many disputations in many centres and is said to have gone even as far as Bihar in the North. Akalanka from Balgola was another famous Jaina preceptor, who is said to have defeated the Buddhist in disputation at the court of king Himasitala (of Kanchi) and thereby proclaimed the expulsion of the Buddhists from South India in 781 A.D. Akalanka is said to have been educated in the Buddhist College at Pontagai (Ponataka) and disputed with them in the presence of the last Buddhist prince, Himasitala and confuted them. The prince became a Jaina and the Buddhists who have come from Benaras (Varanasi) in the 3rd century AD were reported to have been banished to Kandy.

The Jaina teachers were not only great debators but also masters of doctines of rival creeds. For instance, we hear of Nilakesi's disputations with scholars of different faiths, held in different parts of the country. She came out victorious in all the discussions. Similarly the Jaina monk Akalanka commanded universal respect and influence not only in the chief kingdom of the Western Gangas, but also in other parts of the country, this was due to his profound learning and versatile scholarship. He rose to eminence on account of his incessant practice of proclaiming and expounding the scriptures. His disciple Bhattakalanka was not only versed in his own doctrines but also

in the vedic literature exclusively from the samhitas down to the smṛtis. The Jain ascetic Puspasena bore the title Paravadimalla, and successful opponent of his enemies in discussions.

Dravida Sangha

As the name suggests the sangha would have taken its name after the region in which it was formed. According to Devasena, the author of Darsanasara, this sangha was formed by Vajranandin, a disciple of Pujyapada, in the year 536 of the Vikrama era at Madurai. But, according to epigraphical evidence, it is believed that its foundation would have taken place roughly in the middle of the 7th century A.D. Saletore places the establishment of this sangha in the last quarter of 10th century A. D. However its origin still remains a mystery to scholars. The name of this sangha figures prominently in the Karnataka inscriptions ranging from the 8th century to 13th century A.D.

The sangha had its own devision names Pustaka gachcha and Nandi gana. Its teachers seem to have commanded influence and respect in other parts of South India particularly in the northern parts of Karnataka. An inscription from Belgola of the 8th century A. D. mentions a teacher called Pattini Kuravadikal. Though the exact date of its foundation is subject to much controversy among scholar, its contribution to the development of Tamil literature and culture, would never be forgoten by the people of the land. It is to the credit of sangha that many Tamil classical works were produced which are at present considered to be valuable sources for tracing the social and cultural history of the Tamil country.

It may now be discussed in some detail, about some of the important Jaina centres which flourished as great seats of education and learning in ancient times.

Kanchi

Kanci flourished not only as a great centre of Sanskrit learning but also as a seat of Jaina culture and learning from

very early times. According to Sthalapurana of a Kanchi temple. Kanchi for ages, was a Buddhist and afterwards, a Jaina city. A regular colony of Jains is said to have flourished in the locality known by the name Jina Kanci, about two miles from the place. This Jina Kanci is identified with Tirupparuttikkunram, situated on the right bank of Vegavati river. It is being described as one of the four seats of learning of the Digambara Jainas, the other three being, Kollapura, Penukonda and Delhi. An early inscription from Kalugumalai refers to Jaina nuns hailing from this places Tirupparuttikurattikal which clearly bears evidence to the fact that Tirupparuttikkunram was a famous centre of Jaina culture. A large number of Jaina scholars seems to have been mentioned in a palm leaf manuscript obtained from this place. Samantabhadra (2nd century A.D.) and Akalanka (8th century A.D.) deserve mention among them. Mallisena Vamana, the author of Merumandarapuranam (a Tamil work) also figures in one of the inscriptions from this place. He was the author of several works in Sanskrit, Prakrit and Tamil. He was conferred the title of Ubhayabhasakavi Cakravari or "the poet-monarch" of the languages. He might have lived during early part of 14th century A.D.

Vedal

An inscription of Nandivarman, dated in his 14th year, refers to this village as Vidal and Vidarpalli. As mentioned earlier the monastery at Vedal seems to have existed as an important Jaina institution consisting of a large number of students and nuns. It was evidently a nunnary. An inscription from this place dated in the 14th year of Aditya records that there were about 500 students studying under a lady teacher Kanakavira Kurattiyar, who was the disciple of Gunakirti Bhatara. Along with these students, it seems, there were also about 400 nuns living in the nunnery. According to the inscription, there seems to have arisen misunderstanding between the teacher and her students on the one hand and the 400 nuns on the other. We do not know, the causes for their quarrel, but later, it was put an end to by the intervention of the Jains of the locality, who undertook the responsibility of giving food and

protection to the teacher and her pupil. The nunnery was also called Koyil in the inscription. The record runs as follows :

> Guṇakīrti-bhṭāra valī mānākkiyar Kanakavira (kk)
> Kurattiyāraiyum-avar vali mānākkiyaraiyum tapasi
> (k) al nānūruvarkkum koḷḷātmaiyal ik (kōyil) ri
> Piḷḷaikal inūrruvarkkum vali ilārum kaṭṭuttuvāmānōm

Karandai

Karandai is said to have been the seat of the famous sage Akalanka. A big stone mortar in the temple is explained by the temple priests as the one employed by Akalanka to pound the vanquished aliens other religionists. There is also sculptural representation of a Jaina ascetic in the attitude of a teacher which may suggest the propaganda work undertaken by the sage.

Vilapakkam

It is situated very near Pancapandavamalai and once flourished as a great centre of Jainism. An endowment of a house and well, made by a nun, named Pattinikkuratti adikal, disciple of Aristanemabhatarar of Tiruppanmalai, towards the formation of a nunnery in that place is recorded in an inscription dated 945 A.D. during the reign of Parantaka I. It also refers to the supervision of the endowment by the committee of "twentyfour" which may be taken to mean either the village-committee, or the local Jaina committee which supervised the Jaina temple and the Paḷḷi. But it is evident that just as seen in Vedal, here also provision was made for the education of women.

Tiruppapuliyur (CUDDALORE)

This place was called Pataliputra, in ancient times. It was a flourishing Jaina centre from about the 5th century A D. to at least 7th century A.D, The Jaina work Lokavibhaga is said to have been copied by Muni Sarvanandin in Patalika (Pataliputra) in about A.D. 458 in the 22nd year of the Pallava king Simhavarman. The authorship of this work is attributed to Mahavira himself. It is also said that the work was tran-

slated into Sanskrit by Risi Simhasuri who might have probably lived in an earlier period. According to the Periyapuranom, the Saiva Saint Appar served as the head of the Jaina matha in this place, under the name of Dharmasena. But later the Pallava king who was the contemporary of Appar destroyed this matha soon after his conversion from Jainism to Saivism. Similarly in the Karnataka country also, there existed a considerable member of Jaina monasteries and mathas which once flouriseed as great centres of education and Jaina culture Sravana Belgola is the most important of all, which offered ready residence to as many scholars as possible hailing from diiferent parts of the country. A large number of inscriptions from this place, give not only the names of the individual teachers, but also the lineage of Jaina gurus belonging to various Sanghas. Jainism had a continuous history at this place from very early times and even today, there are a good number of Jains living in the place, which shows that the place was an important one in the growth and spread of Jainism in good old days. There are also many Jaina establishments which tell us the tale of the activities of the Jaina monks who lived in them and storove hard for the promotion of literacy among the people. The Jainas of today consider this place as a great pilgrim centre and are paying visits to see the existing Jaina establishments as also pay reverence to their departed gurus.

The Contribution of Nannul to Language Teaching and Learning

Dr. N. NADARAJA PILLAI

"We find the contribution on Nannul as a bridge between the pre-twentieth century learning theories and twentieth century learning theories. Some of the principles discussed in Nannul will be of help to both teachers and learners. Nannul, in short, gives guidelines to an applied linguist, a pedagogist, and a psycholinguist".

A study on a language teaching—learning process, to be most meaningful, needs to treat the following five major variables. 1) the teacher, 2) the learner, 3) the materials, 4) the method of teaching, and, 5) the learning process. Nannūl the twelth century pedagogical grammar of Tamil has focussed on the above five variables in paayiraviyal, the introductory chapter, in forty six sutras.

The description of these variables must be considered as the best contribution of Nannul to the modern theories of teaching and learning. This contribution, though had been made before the scientific development of learning theories, has the root for these theories. In otherwords, we find the contribution of Nannul as a bridge between the pre-twentieth century learning theories and twentieth century learning theories. The conceptions of learning processes and teaching techniques that have emerged prior to the twentieth century, as discussed in Nannul have great influence in todays schools also.

This article tries to explain the contribution of Nannul with reference to the above five variabels in the light of modern thoughts. Since learning forms the basis for the other variables, we begin witn the learning process.

The learning process

One of the the pre-twentieth century learning processes is mental discipline. According to this doctrine of mental discipline learning consists of learner's minds being disciplined or trained. Hence education is a process of disciplining or training minds. Nannul explains the same as the objective of education in sutram No. (10)

> அறம் பொருள் இன்பம் வீடு அடைதல்
> நூற்பயனே.

In other words training of mind to the betterment of character, the goal of attaining heaven, is the most essential aspect of persons.

Similar kind of development can be seen in the west also At the close of middle ages, classical humanism emerged as an endeavor of people to gain more a understanding of god, the universe and themselves. By the end of sixteenth century, the communicative value Greek and Latin began to wane. No longer needed for communication, they came to be heralded as the best subject matter for mental discipline. Whereas Tamil, a classical didn't lose its communicative value as well as its role as subject matter for mental discipline, that is the subject matter of education.

Accordingly, learning language leads to the modification of behaviour. Nannul gives a series of variables that determine behaviour. Though he has not given the terms stimuli and response, we find certain roots to effect that concept.

> "உரைக்கப்படும் பொருள் ... ." (36)
> "அவன் உளங்கொள ...." (36)

For such a discussion, stimulus variable should not be given a narrow definition They may be situational, in other words, they are under the direct control of the teacher. The teacher in turn must know the knowledge level and the capacity to receive the materials, of the learners. (கொள்வோன் கொள் வகை அறிந்து.......... (36)

The response to the stimulus is given by analysing the stimulus in the mind first. This is expressed by the sutram (40)

> ''கேட்டவை கேட்டு அவை விடாது
> உளத்து அமைத்து....''

How the response is formed is clearly explained in sutram (41)

> ''நூல் பயில் இயல்பே நுவலின்,
> ....இகக்கும்''

The stimulus and response may be termed as independent and dependent variables. The third variable, intervening variables donot take the formof stimulus and response, instead they include motivation, needs, drives, etc., as expressed in,

> பருகுவன் அன்ன ஆர்வத்த னாகி....
> சித்திரப் பாவையின் அத்தகவு அடங்கி.... (40)

In addition, according to Nannul the intervening variables include,

a. பொழுதொடு செல்தல்
b. வழிபட முனியாதிருத்தல்
c. குணத்தொடு பழகுதல்
d. அவன் குறிப்பின் சார்தல், etc., (40)

The intervening variables are mediating links in learning; they intervene psychologically, occur between independent stimulus on the one hand and dependent response variable on the other. This would mean that Nannul has considered the learning process similar to the one proposed by Kenneth W. Spence (1956 and 1960), a stimulus-response psychologist, consequently, learning is to be conceived in terms of altenation in the strengths of hypothetical intervening variables, variously known as SR connections, associations, habits or tendencies. Nannul, though not studied the process in a scientific way, has formed a base for the modern learning theories.

Learning, to Nannul is not a single deed but it is a process. Learners, according to Nannul do not learn in general sense, but always in the general sense of a change in a character hat can be described in terms of an observable type of human performance. (Sutram 41, 45 and 46).

Principles of Learning

Some of the principles discussed in Nannul will be of help to both teachers and learners. They are reviewed here so as to bring out their educational implications.

1. The Principle of Readiness

Nannul emphasises that learners learn better and more effectively if they are provided with a learning environment and are in a mood to learn. Readiness does not connate a mere desire to learn. It can be best expressed by the term mind-set (ஆர்வத்தனாகி). This is expressed by the Sutram (40). This has been discussed earlier under intervening variables.

2. The Principle of Exercise

The principle that repetition or practice fixes the facts to be learned and that learners should read their lessons again and again in order to acquire them thoroughly is discussed by Nannul.

> ''ஒருகுறி கேட்போன் இருகால் கேட்பின்
> பெருக நூலில் பிழைபாடு இலனே'' (42)
> ''முக்கால் கேட்பின் முறைஅறிந்து
> உரைக்கும்'' (43)

Drills and exercises are very important for any kind of learinng. Language learning is no exception to it. Drills, exercises, reviews and recitation are justified on the basis of this principle. Practice makes the learners perfect.

One should find out how much practice and exercise is needed to acquire a lesson. Nannūl, as in Sutras (42) and (43) says only three times are required to acquire it as explained by the teacher. It may differ from learner to learner.

Repetition is important bat it should not be used mechanically. By itself repetition is not a sufficient guarantee for successful learning and hence Nannul gives some more exercises.

''ஆசான் உரைத்தது அமைவரக் கொளினும்
காற் கூறு அல்லது பற்றலன் ஆகும்'' (44)

''அவ்வினை யாளரொடு பயில்வகை ஒருகால்
செவ்விதின் உரைப்ப அவ்விரு காலும்
மைஅறு புலமை மாண்புடைத்து ஆகும்'' (45)

which aptly say that by listening to the teacher the learners get a quarter, by discussing it with fellow learners another quarter, and by explaining to others a half. Thus Nannūl emphasises the importance of listening, discussing and explaining.

3. The Principle of Effect

The interpretation of this principle in modern times is that pleasant and satisfying responses are more readily and effectively learned than unpleasant and annoying responses. Nannul on the contrary, gives a principle which would lead to a good response, which gives shape to a pleasant and satisfying reward.

''அழலின் நீங்கான், அஞ்சி
நிழலின் நீங்கான், நிறைந்த நெஞ்சமொடு
எத்திறத்து ஆசான் உவக்கும் அத்திறம்
அறத்தின் திரியாப் படர்ச்சி வழிபாடே'' (46)

The sutram says how a learner should behave with the teacher. This behaviour—pleasant and satisfying would lead to a pleasant and satisfying reward. The phrases,

''நிறைந்த நெஞ்சமொடு...'' (46)
''எத்திறத்து ஆசான் உவக்கும் அத்திறம்...'' (46)

express the dependent nature of learning on the behaviour of the learner, since the teacher himself knows what to teach, what should be the response and what should be the reward. Hence pleasure, satisfaction and reward are ranged against annoyance, dissatisfaction and punishment. The former strengthen learning and the latter weaken it.

The learning process is further divided into the following phases.

1. Motivation

Motivation is one of the most important conditions of learning. A high degree of motivation helps in rousing learners into active participation in learning activities. Hence Nannul says,

"பருவன் அன்ன ஆவர்த்த னாகி" (40)

2. Emotional Developments

Some psychologist are of the opinion that acquisition must naturally be preceded by the phase of emotional preconditioning. This includes the learners attending and perceiving the teaching. This has been expressed in Nannul as,

a. "குணத்தொடு பழகி"

b. அவன் குறிப்பிற் சார்ந்து"

c. இருவென இருந்து"
"சொல்லெனச் சொல்லி" (40)

3. Acquisition

The acquisition phase of learning includes the essential incident of learning. This incident consits of one's coding knowledge for its entry into storage in the central nervous system.

"செவி வாயாக நெஞ்சு களனாக" (40)

4. Reinforcement and Retention

This consists of storage of memories in the nervous system after they have been coded and strengthened by reinforcement.

a. கேட்டவை கேட்டு..."

b. "அவை விடாது உளத்து அமைத்து ..."

c. "ஆசான் சார்ந்து அமைவரக் கேட்டல்...."

d. Sutras (42) and (43)

6. Recall

The process that is at work during the recall phase is retrieval.

''கேட்டவை நினைத்தல்'' (41)

6. Generalization

This consists of the retrieval of an entity that has been learned and its application in a different situation.

''வினாதல், வினாயவை விடுத்தல்...'' (41)
''அம்மாண்புடையோர் தம்மொடு பயிறல்....'' (41)

7. Feed-back and Acquisition of knowledge

Though the response generator organises the learners responses and allows him to exhibit, according to Nannul this kind of performance would be developed by the teacher, co-learners and by lecturing it to others. This performance of lecturing automatically helps in giving feedback to what the learner has acquired. Hence, learning alone does not guarantee that the learner has achieved the goals.

In addition to the above principles of learning, phases of learning Nannul characterises who a learner is and who is not. Sutras 37, 38 and 39 give us the characteristic features. The features of the objects compared to learners to classify them into three, namely, first, middle, and last grade learners, describes the learning characteristics. The phases of learning would explain themselves what learning is.

The next section of the paper tries to include the teaching method in the learning process.

The Teaching Method

As everybody knows learning takes place more effectively by teaching.

The teacher, therefore, gets an important place in the learning process. He is a designer and manager of instruction and finally an evaluator of the learner's level of acquisition. Hence Nannul

explain's this variable clearly in 11 Sutras (from 26 to 36). His treatment of the teacher and the method of teaching may be described as follows:

To start with the instructional proceedures should be systematically designed by the teacher. This is not only the principle of teaching but learning also. The major classes of out comes for the programme of instruction include intellectual skills, information. attitudes, motor skills and cognitive strategies. These outcomes were explained indirectly in sutram (38) which classifies the learners into three grades. Though they are the features of learners, we must consider them to be the scales to measure the learners. Since learning is a change of behaviour we find no other alternative to evaluate the learners but to lean on this sutram (38).

The Role of the Teacher

According to Nannul teacher is considered to be authoritarian. He exercises firm centralised control. He closely direct the actions of his learners. He does all the planning for the clsss and issues all tha directions. This has been explicitly expressed in sutras (26 to 36). These sutras explain the teacher variable in two main divisions, namely teacher behaviour that will achieve curricular objectives and teacher behaviour that will fail to achieve the objectives. Sutras 31 to 35 by explaining what a teacher should not be adds indirectly to the characteristic features of a teacher.

The teacher is a builder of character by behaving himself. He must build character in the learners by becoming a good model to them.

''நிலம்மலை நிறைகோல் மலர்நிகர் மாட்சியும்
உலகியல் அறிவோடு உயர்குணம் இனையவும்
அமைபவன் நூல்உரை யாசிரி யன்னே''. (26)

In addition to the above Nannul further emphasises the emotional development to be the basis for Intellectual development.

''விரையான் வெகுளான் விரும்பி முகம் மலர்ந்து'' (36)

The most important single factor which has been influencial in the formation of personality and character traits is the personality of the teacher.

The learner takes up the teacher for guidance, identifies himself with him considers him wise and clever and imitates him as a model. Further, the learner begins to appraise him in terms of

1. fairness and justice ;

''நிறை கோல்''
''ஐயம் தீரப் பொருளை உணர்த்துதலும்
மெய்ந்நடு நிலையும் மிகுநிறை கோற்கே'' (29)

2. Sympathy and understanding ;

''நிலம்''
''தெரிவரும் பெருமையும், திண்மையும், பொறையும்,
பருவ முயற்சி அளவில் பயத்தலும்
மருவிய நன்னில மாண்பா கும்மே''. (27)

3. Ability to explain the materials and helping the learners ;

''மலை''
''அளக்கல் ஆகா அளவும் பொருளும்
துளக்கல் ஆகா நிலையும் தோற்றமும்
வறப்பினும் வளம்தரும் வண்மையும் மலைக்கே'' (28)

4. Willingness to participate in learners activities and encourage them in activities ;

''மலர்''
''மங்கலம் ஆகி, இன்றி யமையாது
யாவரும் மகிழ்ந்து மேற்கொள மெல்கிப்
பொழுதின் முகமலர் உடையது பூவே.'' (30)

The role of teacher in the teaching-learning process is explained clearly and in detail in Nannul.

Characteristics of Instruction

Nannul while explaining the qualities of a good teacher, a bad teacher and the method of teaching in sutras (26) to (36) gives some features of instruction ;

1. Instruction, to Nannul, is prescriptive, in that it proposes rules for achieving knowledge of skill and provides techniques of evaluating learning out comes. It describes the most effective procedures for achieving the goals. (Sutram 36).
2. The instruction must be based on the characteristics of learning.
3. The instruction will specify experiences which will make the learner willing and able to master the materials.
4. The instruction will direct the structuring of the lessons.
5. The instruction gives the most effective sequencing, (unlike கழற்குடம்).
6. The instruction will specify the ease with which the knowledge is imparted (unlike பருத்திக் குண்டிகை).

As a next step Nannul gives the conditions for teaching and learning the subject/rules that are involved in a situation which are incorporated in an instructional sequence. The following steps are involved in the teaching.

Step 1

Finding out teaching/learning time and environment,
''காலமும் இடனும் வாலிதின் நோக்கி'' (36)

Step 2

Collecting the Knowledge for teaching,
''உரைக்கப்படும் பொருள் உள்ளத்து அமைத்து''

Step 3

Emotional adjustment before teaching,
''விரையான், வெகுளான், விரும்பி முகம்மலர்ந்து' (36)

Step 4

Knowing the capacity of the learner,
''கொள்வோன் கொள்வகை அறிந்து''

Step 5

Motivating the learners to learn,
''அவன் உளம் கொள''.

The Teaching Materials

The fith variable is the teaching materials. Nannul explains in detail about the materials in 22 Sutras (from 4 to 25). They give all detail needed for a materials producer. For want of space we restrict our discussion,

Nannul classfies first of all the book into two, namely body of the lesson and the remaining which includes exercises, notes etc., ((4) to (20) and (21) to (25) respectively).

In education we shall always have to make do with a limited member of hours. This makes it all the more imparative that a well founded choice is made. In doing this we should be guided by in the first place by the objectives that have seen formulated, by the specific level for which the selection is made and the amount of teaching time available. Nannul has not restricted the material producer strictly. But has assigned work to the teacher as in (36)

''காலமும் இடனும் வாலிதின் நோக்கி...''
கொள்வோன் கொள்வகை அறிந்து....''.

But on the contrary Nannul has formulated a format for a material.

1. The selection of content and its form has been explained in (11) which deals with எழுவகை மதம்

2. The selection of vocabulary has been dealt with in sutras (13) and (14).

   ''நன்மொழி புணர்த்தல்' (13)
   ''ஓசை உடைமை'' (13)
   ''...சொற்பொருள் விரித்தல், தொடர்ச்சொல் புணர்த்தல்
   இரட்டுற மொழிதல்....
   இறந்தது விலக்கல் எதிரது போற்றல்...'' (14)

3. The selection of language is dealt with in

   ''...முன் மொழிந்தது கோடல், பின் அது நிறுத்தல்'' (14)
   ''...நூற்பொருள் வழக்கொடு வாய்ப்பக் காட்டி''... (15)

4. The material must be graded. The grading of the materials may be done either on the basing content or language

structure. But Nannul has given the option to the materials. Producer to follow any norm suitable for the material.

''...ஒத்துமுறை வைப்பே....'' (14)
''நேரின மணியை நிரல்பட வைத்தாங்கு
ஓரின பொருளை ஒருவழி வைப்பது...'' (16)

5. Nannul further gives some more criteria such as frequency, range coverage and availabity of words, and language.

6. The format of description, generalization, good qualities and defects one finds in a lesson/book etc., are beautifully explained in Nannul.

Nannul, in short, gives guidelines to an applied linguist, a pedagogist, and a psycholinguist.

Tamil Literature as Contributing Insights into Modern perspectives in Educational Theory and Practice

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"Expression theories in Tamil literature take several forms. The most basic of these theories is what may be called the 'fountain' or 'springing out' theory. This is contained even in the etymology of the word denoting education: KALVI from KAL, 'to dig'. Education is no something that is thrust from outside, but drawn out from inside. New ideas occur to the mind as one sings a meaningful song again and again."

In every culture there are certain thinkers who have seen far ahead of others and represented the most progressive ideas. There have been certain cultures which have on the whole been more progressive than others of their time. When a society is moving towards change, some reactionary forces block progress, anchoring themselves to the conservative aspects of the past. One way of countering this tendency is to identify the progressive tendency imbedded in past culture. In Europe this has happened during Renaissance. This can happen in India also if a 'reconstructionistic' analysis of the past culture is conducted. Plenty of such positive dimensions can be identified in Tamil culture. The present paper is an attempt to identify such positive elements in Tamil Culture. In this approach we are not attempting to falsify history or present the part as the whole, but to identify that part of the past which has significance for the present and future. The word 'modern' therefore is not used merely in the sense of

'contemporaneous'. In the educational context, it means expressive, flexible, progressive, premissive, open, universal, meritocratic. Priority is also given to succinct analysis of relevant pedagogical analysis which have stood the test and which even modern scholars have not been able to improve.

This paper focuses on certain ideational analysis and does not attempt to historically stratify the ideas with specific periods. Since the entire attempt is to identify certain points in past culture which can serve as a mooring or a prop for progressive reconstruction of modern education on the lines of Brameld, the points are also classified according to ideational unity rather than arranged in a chronological order. But as far as possible priority is given to the ancient and early medieval works. Since the paper is addressed to an audience who are aware of the periods of the authors referred this is skipped in this paper. In any case this will feature in the other papers in the seminar where historical stratification is in focus. Only select references are given and since even these are numerous they are grouped and presented.

Expression theories of Education

Modern creative educators like Froebel, Shatsky, Sukhomlinsky and Tagore have emphasized the expressive character of education. Swami Vivekananda defines education as "the manifestation of the perfection already in man" and traces some of this manifestation concepts even in the Upanishadic view of education. Gandhiji defines education as "the drawing out of the best in child and man". The expressive theory in its external form is presented by Rousseau "The first movements of nature are always right. There is no original perversity in the human heart." He goes on to say that the child should be given no type of verbal lesson (aucunt espece de lecon verbale). "The first education should be purely negative" (i.e. there should be no imposition of ideas and impressions from the teacher).

Expression theories in Tamil literature take several forms. The most basic of these theories is what may be called the

'fountain' or 'springing out' theory. This is contained even in the etymology of the word denoting education : *Kalvi* from *Kal*, 'to dig'. Thiruvaḷḷuvar has explained the concept thus : "knowledge is like a sand spring, the more one digs and draws, thereupon, the more excellent is the flow therefrom." Kambar refers to "ūru ñānam" (the wisdom that springs out). Education is not something that is thrust from outside, but drawn out from inside. New ideas occur to the mind as one sings a meaningful song again and again. This is implicit in Tiruvaḷḷuvar's phrase 'naviltoṟum nūl nayam pōlum' and in Sambandar's phrase 'ūru poruḷin tamiḻiyaṟ kiḷavi tērum'. The idea of springing is given religious and yogic meanings-as god-realisation, self-realisation, and yogic power release in various poems of Appar, Sambandar, Tirūmular, Nammaḷvar, Kumarakuruparar and others. In the water-spring simile some authors combine expression with prior impression. Paranjōti munivar refers to learning, hearing, soaking and springing in the mind resulting in the flood of true knowledge.

Flowering is another of the expression or unfolding theories caṇṭecuvara Nāyanār's natural understanding of the vedic knowledge at the age of five is described as "flowering in the mind and understanding, like the smell of blooming bud, by the chain of knowledge old." In Appar's learning, the arts are said to "open out the coiled mind and make it to flower out". This theory has particular relevance for developing the concept of learning readiness (vide infra).

The theory of *sowing* and *bearing fruit* has a component of expression and impression. Tiruvaḷḷuvar compares scholars to ploughmen who plogh with words (collēr uḷavar). Appar elaborates this concept in an ethical-religious frame:

Ploughing with truth as plough, sowing the seed of ardour,
Plucking the tare of falsehood, supplying patience as water,
Discovering one's selfhood, erecting the fence of fitness,
If one could stand in uprightness, the state of Godhead will ripen.

Appar calls God the seed, the sprout, the root, the crop and water. Particularly significant is the phrase "the seed of

all unexplained thought." Similar ideas are found in the Aḻwars and other religious thinkers. Maṇimēkalai gives a model (as in the parable of the sower) where the ethical lecture is compared to sowing which bears fruit in time. Tirumūlar uses the sowing and fructifying metaphors frequently, bringing out the concept of complete transformation of what is put in, and relating it to the yogic path and to the effect of fructifying across births (ūḻ and uḻavu are explicitly connected). His mystic metaphors however are sometimes usad to give meanings opposite to what one might get at the surface reading (e.g. gourd represents zeal, and gardners refers to sense organs).

The Tamil word for knowledge, aṟivu, seems to be etymologically related to aṟu = to cut. It is exploited in two ways: one is to *cut into* or *penetrate.* Nalaṭiyar calls the intellect ehku (steel). Tiruvaḷḷuvar refers to the intellectual person as "sharp as a file", Another rich phrase in Tirukkuṟaḷ is "nuṇmāṇ nuḻai pulam" (the subtle, glorious, penetrative knowledge). This kind of fineness and entry into subtleties of literary works has numerous references in medieval literature. Tēvanēya Pāvāṇar's analysis of 37 old Tamil words referring to thinking include various cutting and penetrating words, such as aṟital, āytal, tuṇital etc., It is interesting to note that cūḻtal, literary 'surrounding' is a preliminary stage in problem-solving before the penetrative cutting (tuṇital). The 'aṟu' root is also used in the sense of cutting off (of desires, passion, fetters etc.,) and used frequently by the religious and ethical writers. This is not elaborated, since it is not of much significance in the modern 'lower' context.

Aspects of Impression Theory

Impression theories are also called positive theories because they emphasize the positive role which the teacher has to perform. Exponents of discovery learning and creative learning consider excessive emphasis on impression as reactionary, especially because they tend to make the pupil a passive listener. Tamil literature does have plenty of references to the 'pouring in' concept of knowledge and to 'filling the mind' with knowledge. Naṉṉūl explicitly advises the pupil to sit quiet like a sculpture

and take in what the teacher says, 'with the ear as the mouth and the heart as field'. Since plenty of rote memorization of astract ideas did take place in indigeneous schools, some Tamil scholars even in recent times think that this kind of passive reception was the Tamil idea of education.

While rote memorization did exist, the greatest educators left no doubt that this was not their model of good education. Nālaṭiyār refers to the base scholar who has simply 'recited his tongue lessons' (nāppāṭam colli) and pretends to appreciate the works and to the fool who "having got a sūtra by heart from the elementary teacher recites it unabashedly befor the scholars and displays his ignorance." At best such rote learning is the first step to education (at a time when the period for elementary education was highly limited and the 'essential' codified learning was highly abstract), or as a possible gateway to education. Scholars have left no doubt that education gets completed only as new meanings of the learned works occur in the mind of the scholar as he matures and gets more experience.

It must however be mentioned that even in twentieth century America a group of conservative educationists, calling themselves essentialists have emphasized the role of reception learning. More recently Ausubel has attempted to give a rationale for reception learning and even rote memory of words prior to experience, under the name of advance organizer. The Soviet psychologist Vygotsky also took a similar stand. But if the advanced organizer becomes too advanced it my fail to organize. There are also 'conditioning' shools which emphasize the stimuli imposed from outside. Recent advances in information theory also emphasize the systematic organisation, administration, storing and retrieval of information.

Actually the impression and the expression theories are complementary to each other. The value of impression in education is in the systematising of the material to be presented to children and in orderly and sequential ways of presenting it to the child. The Tamil theory and practice about lectures and codifying scholastic works (vide infra) represent this aspect.

The Concept of Learning Readiness

One of the major concepts in modern educational practice is that of learning readiness. It emphasizes that learning can take place only when the child is physically and mentally ready for it, having attained the necessary level of maturity and the prior preparatory experiences. This concept therefore bridges the expression and impression theories. Educators like Montessori and Bruner hold that at the state of readiness, learning comes as a discovery. But they do not wait for the readiness to simply unfold. They do supply structural experiences which could stimulate the readiness. Even for the reception school, learning will be assimilated quickly, often in one or two attempts if presented at the state of readiness. Otherwise learning can be a torture.

There is not much evidence that the elementary school of the kaṇakkāyaṉār bothered much about the learning readiness theory.

The loud chanting in these schools is frequently mentioned. But one or two references to Saints like Caṇṭēcuvara Nāyaṉār blooming right away with the learning of the Vedas, read with children informally playing with the rites in childhood suggests that children did have the means of acquiring learning readiness. Even for the traditional elementary school, Avvaiyār's norms that the Veṇpā should be learnt by heart in two attempts, read with graded preparatory material suggests that learning readiness did operate with superior teachers, so that torturous and meaningless repetition could be avoided.

But the concept of learning readiness appears to have been worked up very effectively in higher learning. Maṇimēkalai's readiness for the higher spiritual learning is said to have been indicated by ētu nikaḻcci (facilitatory incidents). In Saiva Siddhanta the concept of pakkuvam (maturity) indicates spiritual readiness at which stage the divine teacher has to conduct just an operation rather than inflict a sermon to reveal the insights and illumination. Cevvi is another term representing learning readiness which is relevant for both secular and sacred contexts.

It has been made out later that the Akapporul works were carefully graded and organised to precipitate learning readiness for the sacred as well as secular context.

A Teaching Model

Sir John Adam's bi-polar theory with the teacher as the emanating pole and the pupil as the receiving pole is typical of the impression theory. Adamson's tripolar theory insists that education is actually a relation between the pupil and the worlds (natural, social and volitional), to which the pupil has to adjust. The third pole. the Teacher is not to be a point of focus, but performs a catalytic function. He sometimes approaches the pupil to stimulate him to approach and understand the world or presents a part of the world to the child. But education itself is "a mysterious synthetic process" in which the pupil appropriates and is appropriated by the world. In this the teacher has neither part or place.

Tamil teaching theory taken in segments would appear to present a bi-polar view in which the teacher is a giver and the pupil is the receiver. But taking the full context in which the teacher is also striving toward perfection (and, in the spiritual context, liberation) a tripolar model would pe relevant. The Jain saint Pavaṇandi gives what appears on the surface as a penta polar model, but it would be seen that the fourth and fifth items mentioned are actually process elements and would properly connect the other three substantive elements. Thus it would resolve into a tripolar model.

Nūl (The work to be learned)

Nuvalum tiṟan (Way of telling) | Kōtarkūṟṟu (Way of receiving)

Nuvalvōn (He who tells) | Koḷvōn (He who receives)

Nūl (literally thread) is not to be understood as merely verbal matter to be transmitted, but as a means of correcting

and improving the learner. "Improving its good qualities and reducing its bad qualities, the thread removes the tree's defect (in use as dress materials) of heaviness (of barks and leaves). Even so great learned works remove the defects of men". Nul therefore obviously represents the world of values at the highest. If the secondary (vaḷi) and supporting (cārpu) works are taken into account, the worlds of nature and men would also be covered. It may be noted that the preface to Naṉṉūl, while emphasizing 'receiving' from the teacher also adds that this constitutes at best just one-fourth of the learning. The other three-fourths are contributed through discussions with fellow-scholars and one's own future experience.

Some Theoretical dimensions of Scholastic works

Pavaṇanti's concept of Nūl is given in the last section, Tolkāppiyar defines nūl as consistent, classified, comprehensive, subtle, illuminating learned work. He distinguishes between original work (mutal nūl), i.e., that which is 'seen' for the first time by the pioneer of lustrous knowledge) and adaptive work (vaḷi nul). Some commentators attempt to fix specific works as mutal nūl and vaḷi nūl A more modern approach is given by others, in which the concepts of mutal and vaḷi are considered as relative. Four ways of adapting works are given: condensation, expansion, combination of both and translation. Freedom from the ten defects and use of the 32 techniques are also mentioned. Naṉṉūl explicitly mentions ten beauties. Most of the analysis and classification is relevant even today. Tolkāppiyar also includes an analysis of non-formal works, which has great significance for folk education.

Concepts about the Teacher and the Taught

Teacher behaviour and learner characteristics and nowadays being analysed by eminent scholars. The analysis given in nannul could enrich the modern analysis.

The qualities of good and bad teachers and pupils are brought out in striking metaphors. The good teacher is compared to the earth (for obvious expanse, solidity, patience and the property of yielding according to effort and season), the

mountain (on account of immeasurable dimensions and content, indestructible state and appearance, and ability to yield its wealth even when it dries up), the weighting balance (for settling the issue without doubt, and for impartiality) and the flower (which is auspicious and essential, makes people happy and blossoms at the right time). The bad teacher is one who has no good qualities worth speaking about, has an evil nature, is jealous, greedy, deceitful. Four striking metaphors are given to indicate the type of persons who should be excluded from teaching. Kaḻal Kuṭam (pot filled with moulcca beans), matal paṉai (palm tree with uncut stem), paruttikkuṇṭikai (cotton packet (and muṭattenku (bent coconut tree).

Kaḻal kuṭam gives out its content in a haphazard manner and not in the order in which it was filled. It symbolizes the *unsystematic* teacher. Maṭal paṉai with the stem uncut cannot be climbed. Its fruits can be obtained only if it gives of its own accord. This represents the *inaccessible* teacher. The tight cotton package is filled with difficulty and gives out slowly even though the recipient's capacity is great. It represents the *dull* teacher, Muṭattenku draws water and manure from one source but drops its fruit in another house. This symbolises the *dishonest* teacher who receives his service and fees from one set of pupils, but does not share his knowledge with them.

There are several other concepts of the teacher coming from etymology and metaphor. Āciriyar is literally one who removes error (ācu). Hence the diagnostic-remedial (and 'surgical') function of the teacher is underlined. This is exploited purposefully by the spiritual theorists. The word ācu has also the positive meaning of 'support'. Hence the shorter word for a teacher ācan signifies one who lends support. The *guru* concept (*kuru*, in Tamil) signifies the lighting function. It is also associated with the function of linking the pupil with the reality. The teacher is also comparad a boatman (who helps to cross the ocean of births and deaths). This metaphor helps the Jain saints to show that the teacher can be from any caste.

Naṉṉūl gives several metaphors to symbolise learner characteristics. The best pupil is compared to the swan (for discrimination

and selective assimilation), the cow (for transformation-eating grass and yielding milk). The worst pupils are symbolised by the broken pot, the sheep, the buffalo and the oil wick. The middle category is symbolized by the parrot (which repeats what is told) and the soil (which yields in proportion to the manure). The heckler in the class is called Kurankeṟi viḷankāy in view of the expected outcome (the wood-apple thrown by the monkey). Ideally, the pupil is māṇākan, one who 'make glory'.

Communication theory and Formal methods

Interesting insights into communication theory are given by Tolkāppiyar in Collatikāram and also later in the akam sections, where a deep theory of subtle communication is discussed. The later aspects are elaborated further in Sangam literature, Tirukkuṟaḷ and in Bhakti literature and later Akam works. Māṇikkavācakar's Tirukkōvaiyār gives a complex taxononomy with great significance for even secular education.

Analysis of *oral discourse* brings out principles of verbal coding-its compilation (vakai), classification (tokai), correctness (kacaṭu ara), usage (naṭai) and relevance. The principles of proper delivery in speach is also given in various works. The concept of speaking so that the words 'carry' (celaccolli) is repeatedly indicated.

Question-answer theory in Tolkāppiyam and other works have brought out the two-way factor in communication. The principle of "Answer the question". is explained in the Sutra "Ceppum Vināvum vaḷāl ōmpal" and in a telling poem in Palamoli. Missing the point of the question, and giving an irrelevant answer is like *bandaging the nose for a wound in the knee* Cēnāvaraiyar and Uraiyāciriyar in their commentaries to Tolkāppiyam have given various classifications and functions of questions, including the Socratic and other pedagogic functions.

The role of *debates* in keeping on'es knowledge ready for use has been brought out in various places. The abuses of the debating mentality are also mentioned.

In discussion situations different oral communications would supplement each other in all possible ways instead of the shuttle form as in question answer. Matching of discourse, regulating of cross-talks, supplementation and mutual enrichment, relevance, reinforcement, joyful reward and other aspects of discussion are noted, particularly by the jain scholars. Tiruvaḷḷuvar's analysis of fearlessness before the assembly and adjusting to the assembly is extremely insightful. The speaker is advised to appear bright before the bright and take the visage of a whitened wall before the white" (i.e. the blank on ignorant). "Like nectar poured into the gutters is the taking of a communicative stance (kōṭṭi koḷal) before those who are not of one's (intellectual) class." On the other hand, "speaking before those who have understanding is like pouring water in a plot where plants are growing". This takes us to a higher concept of communication.

The concept of *educative listening* (kēḷvi) is held to be as important as formal education (kalvi) itself, Tiruvaḷḷuvar has pointed out the enriching, feeding, spiritualizing, supporting, rewarding, supplementing, sobering and humanising function of kēḷvi.

The educative function of *non-verbal communications* of various types has been brought out. A theory for using sculpture for educative communication has been developed by the Buddhists in phrases like 'aṟivuvarak kāṭṭi'. The Saivaites developed this further. Sambandar says that God's forms "remind us of the truth which cannot be conveyed through chanting."

The Akanāṉūṟu poem entitled Ōvacceyti (pictorial message) brings out the relationship between the graphic arts, dance and poetry. In Sangam times, kūttar, and viraliyar served the cause of education and entertainment specializing in communicating ideas and feeling through bodily expressions. In Saivism, dance theory takes very complex surrealistic and idealistic overtones. Besides the systematic use of the dance to communicate the story of Lord Siva and his devotees, Lord Siva himself has become the King of Dance (Natarajan), specializing in non-verbal communication through the dance and through the use

of mudras. Tirumular has developed a kind of resonance theory in spiritual communication through Siva's dance.

Communicating through drums (paṟai) seems to have been an effective model of communication among hill tribes. Loading of meaning in the way of playing the small drum, as well as the listener reading his ideas into the drum (ōrttaticaikkum paṟai) have been referred to. Music in its tonal modes has been recognised as a powerful medium of communication.

The coding-decoding behaviour (Wilbur Schram) is one aspect of communication, especially in the verbal modes. Besides this, resonance, rapport, and other aspects are emphasized in the non-verbal modes indicated in the preceding paragraphs, Akam literature particularly emphasizes the concept of mutuality. The term uṭampaṭuppu occuring in Akam themes brings out this aspect rather than simply putting across certain ideas. A richer concept of communication is implied in this view, similar to John Dewey's connection of the word communication with 'making common'.

Literacy and Numeracy : Their Universal and Broad aspects :

Tamil literature has emphasized the importance of written traditions of communication from very early times. As against the vedic oral traditions, the Tamil Tevaram has been called eḻutumaṟai (the written veda). This has powerful implications for the diffusion of education. Once the highest body of knowledge is put down in writing and made accessible in easily available material like the palm-leaf, it cannot be held as the exclusive possession of a particular community or caste.

Tamil literature, particularly the didactic works have held literacy to be a universal ideal. In developing the case for learning (kalvi), as an ornaments, an eye opener, as a joy, as a valuable possession, as wealth, as a generative source, as an aid in scholastic discourse, as an essential and distinguishing requirement of man, as the real ornament for a person, as a help for using one's resources as means for

vertical and horizontal mobility, as an aid to move across countries and even across births, the admonition is always addressed to man in general and not to the princes or any other specific sections. This does not mean that there was universal literacy in Tamilagam in ancient days. There is however evidence that universal listening education was available to everyone through the help of the wandering teachers and provision for literary education was spread among all geographic area and all occupational groups.

It would be interesting to analyse the basic components of formal education. In traditional English education this used to be referred to as the 3 R's (Reading, 'Riting, and 'Rithmetic). But in the Tamil tradition, Tiruvaḷḷuvar, the medieval Avvaiyār and others have condensed these into the two E's-eṇ and eḻuttu. Eṇ (number) extends beyond arithmetic to include logic and the classificatory sciences. Similarly eḻuttu (letters) spills beyond reading and writing and extends into literature. It is interesting to note that in the west also the 3 R's is now considered to be a narrow concept even in school education. Even at the school stage there is a tendency to broaden it out into the two 'cultures' similar to our 2 E's. Exponents like Snow aud Crowther designate them as literacy (which goes beyond learning to read and write into an insight into humanistic culture) and numeracy (which includes both mathematical and scientific culture).

A careful analysis of Tamil literature shows that the reference to the formal school and the formal classroom teacher are relatively few. A multiplicity of institutions which served the preservation and propagation of education and culture, and a multiplicity of leaders of thought and culture who served as formal and non-formal teachers or animateurs. In modern times also many scholars feel that the narrow school and the formal school teacher takes care of only a small aspect of education (Exponents like Illich take the stand that the school is de-educative, and "the more the schooling, the less is the education"). Hence it would be of interest to analyse the Tamil model of multiple leaders of thought and culture and of multiple institutions serving education and culture.

Leaders of Thought and Culture

A multiplicity of teachers and preservers of culture both in and out of school is a factor promoting life-long education, which is a term coming into prominence today.

Kaṉakkāyar were the primary teachers who taught not only reading and writing, but introduced the pupils to the compilations of learned works (kaṉakku) and paved the way to systematic study of logic, literature and higher education. Every village was expected to have a kaṉakkāyr. So universal provision of basic education was a norm. The term Uvāttiyar also refers to the formal school teacher (in mediaeval and later times).

All the other classes of scholars mentioned below exercised the broad scholastic and cultural functions extending beyond the school. *Acan* sometimes refers to the school teacher in a narrow sense. It also serves as a shorter form for āciriyar which means 'expert' in any field (vide the multiple experts' who introduce Mātavi to her art). Some have interpreted pālāciriyar and Iḷampālāciriyar as teachers of young children, but it is more probable that pāl refers to classification of ideas, and hence these may refer to scholars of grammar and logic *Kuravar* is a teacher as well as any elderly person. The term is popular particularly in religious literature.

A large number of wandering scholars and artists like *pulavar* (scholars in grammar literature and related content), Pāṉar (specialists in music), *ahavunar* (a group of actors with a declaiming style of speaking), *porunar* (a group of actors accompanied by singing troupes, kūttar (spacialists in dance-drama), kōḍiyar (originally specialists in the horn, but described as possessing a variety of skills), *vayiriyar* (originally instrumetal musicians, with widely extended functions) etc., have been mentioned. Announcers of public message include *kuyavar* (potters), tuṭiyar (drummers), vaḷḷuvar etc.,

There were scholars associated with the royal household like neṭṭimaiyar (those who have long vision), mutukaṉ ('wise eyes' or guardians), *nakai* vēḷampar (royal jesters) and singers

to the king on various occasions (cūtar, mākatar, vētāḷikar). A wide variety of religious leaders varying from the primitive hill-tribe priest vēlan and priesters cālini to the brahmins antaṇar, pārppār). Kaṇiyar (astronomer-philosopher), aṟivar (Jain-scholar), mātavar, tēraiyar, cākkiyar (Buddhist scholars). Of special interest for our present analysis are the toṇṭar, nāyanmār and aḻwār of the Bhakti schools, both Saivite and Vaishnavite and the *cittar* who brought the highest philosophy to the street and into the every day occupations.

It is not possible to document the function of these scholar classes in a short paper of this kind. It would be more relevant here to focus on the educatively reconstructivist aspects. Strabo refers to a number of wandering scholar groups in early India. It is seen from Tamil literature that scholar groups like pulavar, wandered through the five-fold land and not only diffused their knowledge among the people, but also learnt from the people and from variegated nature. In present day India a lot of adult educators assume that they are all-wise and that the masses are all ignorant, and dole out small parcels of literacy and associated knowledge. In contrast, mature adult educators like Paulo Freire insist that the adult educator should participate and identify himself with the people and treat the adult illiterate educand as a coresearcher with himself. Apparently, a similar approach seems to have been taken by the Pulavar and other wandering scholars of the early period. The net result is that out of the hunters, shepherds and tillers, the highest level of scholars have blossomed forth. During the early midddle ages the Saivaite and Vaishnavite scholars called themselves toṇṭar and went about with an attitude of service to the people, learnt from them their local tradition and spread their message among the people. The pāṇar analysed the tonal and percussion modes of the different sections of the people and developed the Tamil musical system. At the same time they enriched the spread of ideas through their popular singing. This probably happened as a continuous process. Couscious use of this function has been indicated in cilappatikāram for spreading loyalty to royalty and during the Hindu revival in the middle ages. Sam-banbar's songs were popularized by Pāṇa singing and Tirup-

pānalvar was both a poet and a musician diffusing the vaishṇavite message. The dance-drama scholars similarly enriched populor education through the body-ballet.

In recent times the Soviet Union and Hungary have successfully accomplished reconstructive education on models similar to what we find in early Tamil Poets, literary authors and musicians move about the countryside and use the ideas, rhythms and tone patterns thus collected in composing their pieces. The principle that "we give back to the people what we took from them" make the massage more acceptable to the people, besides making the poets and composers more humble. In recent times, Tagore tried to put some of the ideas into education including a *Vaidalik* singing group to wake up people in Shanti Niketan early in the morning. Among non-formal agencies the Kerala Sastra Sahitya Parishad uses some of these approaches to diffuse scientific and awareness ideas among the people.

Institutions serving Culture and Education

Many futurologists believe that with the knowledge explosion and recent development of technology, the formal school may become less important and several learning centres develop. While early and medieval Tamil literature specifically mentions elementary schools and indicates the presence of higher schools, it also shows that several social centres have served educational purposes.

The village common place called maṉṟam has perhaps been the most important of these from the point of view of popular education. Children used to play at 'preparatory games' in the manram Village sports, worship cefemonies and community dances were held there. Maṉṟam served as a court of justice where the cāṉṟor (wise men) assembled and settled problems and cases. It was also a centre for gossip and group control. Visiting poets' bards, instrumental musicians and dancing troupes, camped at maṉṟams displayed their learning and skills and entertained and educated the populace. They were also fed and rewarded there. It was a forum where one could display one's formal education.

Later the temple (kōil) became the most comprehensive socio-cultural institution. The conduct of festivals, dances conveying puranic episodes, popular-lectures, singing of sacred hymns, musical performances etc. were done in and around the temple but under the umbrella of the dominant religion. During festivals, however, the temple extended its frontiers and a number of earlier practices which were muffled when the temple took over were reenacted in the who community.

It is not necessary in the disucssion to go into the adjuncts to the temple like manṭapam, maṭam (mutts), māḷikai, cālais etc. some of which served as regular colleges for higher education. But it is interesting that several *naturalistic centres* like the park (kā) forest, dry sports, in the river (turutti), tank, hills, street (vīti) and teṟṟi (veranda) which had been used earlier as centres in the Secular, Buddhistic and Jain traditions also got incorporated as educational centres in the Hiudu tradition.

Many modern systems which want to extend the school into the community and which are genuinely becoming non formal have begun to use relatively unstructured natural centres or structures built by the community for its common use for educational purposes. Some futurological architects think that it may not be possible for the community to reduplicate its resources for formal education and out-of-school recreation. In such an event a detailed analysis of the educative use of maṉṟam and kōyil might be helpful.

Before concluding the discussion on institutions it might be useful to refer to some *abstract-social institutions* (as against *nucleated institutions* like the temple).

Avai refers to an assembly where discussions and debates used to be held. That such discussion groups should have been widely prevalent is seen from the insightful discussion theory (vise supra). use of not less than ten proverbs on this issue and categorisation of aesemblies. Tiruvaḷḷuvar refers to nal avai (the good assembly), nuṇ avai (the subtle assembly), val avai (the strong assembly) and pul avai (the low assembly). The

commentators to Malaipaṭukaṭām gives citations with a very deep analysis of nal avai and niṟai avai (full assembly). In modern purposeful research groups a lot of research is being done for drawing out group creativity of the best minds. Tiruvaḷḷuvar, the Jain saints, and several other Sangam scholars have given excellent ideas which might be useful.

Sangam or *kutal* is another unique model of the collective working of master minds. The Sangam is s place where scholars of all castes, communities, religions and sexes could meet on an equal footing, with the chance that merit would find its own level, where scholastic problems could be discussed and learned works examined, edited and compiled according to multiple criteria, The Sangam stood for truth and academic freedom, and was able to resist undue pressures from secular and sacred forces even though it was patronized by them. It stood for preservation of healthy norms from the past, but avid and open-minded reception of worth - while novelty. It is an excellent model relevant for promoting collective scholastic excellence in secular India.

Another institutional model coming from early Tamil is the multiple philosophic schools set up in the outskirts of Vañci. This may be considered to be a 'multiversity' as against the 'University' at Kanchi.

Non-formal and interdisciplinary modes of Education

The term non-formal education has gained currency in India, but often cheap and formalized education delivered outside the school places or school hours has been called non-formal education. But when great scholars make out the case for non-formal education, it is on the ground that it should be flexible relevant to life needs, productive, creative, available on 'own-time' basis, continuous and life-long, Early and medieval Tamil literature provides some very interesting and even unique models of non-formal education. When education becomes non-formal, the disciplinary structures of the subject tend to break down. To make up for that unique interdisciplinary or transdisciplinary

ways of structuring the knowledge have been found in early Tamil.

One picture which many people have about indigeneous elementary schools is the strict external discipline and severe punishment meted out to children. But in modern education Rousseau was perhaps the first to call attention to *childhood* as the centre of education. The first rule which he gives to the educator is *Aimez l'neface.* (love childhood). Authorities like Aries are of the view that the discovery of childhood began in the thirteenth century but developed in significant ways only in the seventeenth century. But the sweet delights offered by children's fumbling walk (taḷar naṭai) and their sweet prattle is repeatedly found in Sangam literature and in Tirukkuṟaḷ. The stages of child growth have been recognised by Periyāḻvar and later by Piḷḷaittamiḻ exponents, Educative songs are composed to match each of these stages. Toys and activities have been developed to stimulate relevant learning at each stage. Childhood fantasy and cradle songs have been capitalized for educational purposes.

Tamil literature has recognised *play* as a method of education from very early times. Learning through games has been described in the early life of hunters and tillers and also of the well-to-do children. Māṇikkavācakar and Periyāḻvar have been particularly effective in using play songs of children and older girls to impart abstruse spiritual concepts.

Folk Songs of the various regions have been used to intellectualize, socialize and spiritualize ordinary occupations and activities from the early period. Pestle songs, field songs, measuring songs, river songs, bullgrappling songs etc. are a few typical genres. Cilappatikaram indicates their use for kingship values and the Bhakti poets use them for developing spiritual values. In the later period genres like Paḷḷu and Kuṟavañchi elaborate the life and non-formal education of the tillers and hill tribes.

Folk dances often go hand in hand with folk songs. The early kuravai was dance of the people, by the people, for the

people. All join together under the typical tree of the regions or some open space or sandy stretch in the coastal area. These served as a bond for welding the community together, to instil the essential values of the group and to call attention to relevant knowledge.

Proverbs and riddles have been known to be powerful means of popular education all over the world. What seems to be unique about is that Tolkappiam is that it has developed a grammar for these genres thereby making them as respectable as the formal scholastic works. This recognition and analysis have generative value for popular education and bringing it with formal education. The Jain saints have been particularly adept in exploiting proverbs for educative ends.

Travel has been a particularly valuable medium of education for the scholars. The āṟṟuppaṭai literature which starts in the physical wandering into nature and among the people gradually takes an internal dimension making pilgrimages not only into the various sacred centres, but also within the inner realm of the self. The location of sacred centres distributed all over the country with a special eye on the geographical region type indicates a kind of non-formal educational planning.

Festivals, both secular and sacred, have been recognized to have great educational value. The careful fixing of different places as differentially important at different periods permitted poets. bards and dancers to travel to different places, educating the people and being educated by them. Spring festivals were the common occasion for scholars from distant places to come together and share each other's wisdom. On these occasions the people of Madurai used to "drink deep of the words newly born out of wistom's tongue". Festivals were occasions for great scholars, to transmute simple hedonistic situations into spiritual experiences and for exclusive Brahmins to learn lessons in mingling on equal terms with the people (as in the Tiruvārur, Festival-Periyapuranam). Festivals were also occasions in which God, imprisoned in the temple, goes out to his people. and even the poorest could have a direct devotee-Lord contact in the temple garden or in a water spot without a mediator.

Perhaps the most unique non-formal mode developed in Sangam literature is what I have called elsewhere as the *ethnocurriculum*, It is very difficult to imagine any culture which does not know love and love songs. But an analysis of love situation and developing systematic and graded scheme of genres of love poems weaving all knowledge through intricate conventions into these genres, and making these the medium for *all* education, and a bridge from non-formal to formal education is a unlque model in the history of education and culture.

Land is divided primarily into four: Kurinchi (hill), mullai (forest), marutam (fertile land) and neytal (coastal area.) It is extended to five, since the first two can be transformed by drought into Pāḷai (desert). These five natural regions are matched with love themes, union, patient confident waiting, squabbles, longing and separation. Two more love themes are added: Because they are landless, the themes are non-mutual-kaikkiḷai (unrequitted love) ānd peruntiṇai (abnormal love). The external social (puram) themes are matched one for with these seven internal love (akam) themes. In akam poems, scholars are expected to present their knowledge of land and the seasons (primary content), what 'grows' in the land-plant, animal life, custom, music, local deity etc. (crop content) and the "appropriate" content-love, relations, associated with psychology and philosophy. It is only the last aspect that can be sung directly. The others must be fixed as background or wovan as covert or overt similes. Even external social life themes like history can come as similes.

This kind of architectonics of knowledge built around nature and love, the greater representation of Akam in Sangam literature, the gradued arrangement, its complusory study even for ascetics who aspire to become Sangam poets, and the sublimated extension of genres in Bhakti poems suggest that this is deliberately planned organisation of *all* knowledge. The Tolkāppiyan Sutra: "Akapporuḷ marunkin ariltapak kiḷantōr puṛapporuḷ ilakaṇam tiṛappaṭak kiḷappin" is a crucial point for this argument.

In this way of presenting content, even the tribal folk will feel all learning introduced from their point of view, overtly.

Gradually all knowledge is inbuilt in covert ways. Since love is the prior model with heroism in the background this will also form dramatic materials. Any complex formal learning can be given a popular presentation and diffused among all the people. The concept of viruntu (novelty) encourages all people to look for new ideas.

Modern environmental educators like vidart, Schafar et al. have attempted to rediscipline knowledge in various ways when the subtect-wise discipline breaks down in the pupil's direct encounter with his environment. The Sangam ethno-curricular model with Akam genres as media is not at all inferior to the best models in developed systems and is perhaps the most relevant for developing countries.

Cilappatikaram gives several interdisciplinary models of which musico-philosopical analysis meeting life situations has enormous potentialities similar to the ethnocurricular models described earlier.

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The ancient Indian Education of North India and Tamilnadu- A Comparative Study

—*Prof. P. THIRUGNANASAMBANDHAN*

"A Comparison of the ancient system of Education in North India and Tamilnadu reveals how while the system in the north was oriented towards the study of the vedas and their ancillaries serving the needs of the first three castes (Brahmana, Ksatriya and Vaisya) the same in Tamilnadu did not confer any exclusive previlege to particular groups in society. Education in the latter was open to all."

We have the first glimpse of the system of Education that obtained in North India in the Vedic texts themselves. When the Vedic texts were compiled, arranged and came to be taught, the method adopted was naturally by comitting the texts to memory. As the teacher recited them pronouncing every letter, syllable and word in the prescribed accent they were repeated with mechanical precision by the pupils like a body of 'croaking frogs' as the Veda itself records. It was however soon recognised that Vedic study was only aparā vidyā (secondary learning), parā vidyā (primary learning) being knowledge of the Supreme Being or Para Brahman.

In the Taittirīya Upaniṣad we find an exhortation by the teacher to the student at the end of nearly twelve years of study which reminds one of the Convocation address of the present day,

'Speak what is true. Do your duty. Do not neglect the study of the Veda. Take care that the thread of your lineage is not broken. Do not swerve from truth and from duty. Do not neglect your health and worldly prosperity. Do not neglect

the learning and teaching of the Veda. Do not neglect the works due to the Gods and manes. (The debt to Rishis, the authors and propagators of Vedic texts is the one related to learning the various arts and science that constitute the cultural heritage.) Let your mother, father, guest and preceptor be shown equal regard equal as unto God' and so on. It may be seen emphasis is laid on one's duties and responsibilities and none on rights and privileges. The latter are bound to flow if the former are taken care of. Stress is also laid on social obligations, healthy and prosperous life.

The relation between the teacher and the taught was nothing but cordial. The student looked upto his teacher as his father (Prasna Up. vi. 8) The propitiatory verse uttered at the commencement of study every day--'Saha nau avatu, Saha nau bhunaktu, Saha vīryam karavāvahai, tejasvinā vadhītam astu, mā vidvisāvahai' lays stress on the need for co-operative endeavour and mutual goodwill on the part of both ensuring a bond of respect on the part of the student and affection on the part of the teacher. As an Upaniṣad puts it 'Ācāryaḥ pūrvarūpam, antevāsī uttararūpam vidyā sandhḥ' — 'The teacher is the obverse and the student the converse and learning is the link between the two'. The term ācārya, literally means one who gathers (ācinoti) the knowledge of his religious duties and acts (ācarati) accordingly. The student was called 'antevāsī' because he lived in his master's house. He was also called, 'vidyārthī' an aspirant for learning and a 'śiṣya' one who is commanded to perform his duties.

It is incumbent on the teacher when a pupil goes to him to teach as he knows it and not conceal anything from him. Kālidāsa describes an ideal teacher as one who is capable of communicating what he knows to the student. His superiority does not rest so much on his erudition as in the skill of communication.

Yāska in his Nurukta (ii. 3.4) throws light on the methods of the Vedic education. He states that the teacher must avoid teaching isolated syllables and should not also teach pupils ignorant of grammar nor any one who is not a regular pupil

living with his teacher. He should teach only such a regular pupil as well as one who is specially qualified by his intelligence or asceticism or thirst for knowledge.'[1]

According to the Grihyasūtras dealing with rituals of a domestic nature the three upper castes the brahmana, kṣatriya and vaiśya were to be imparted education obligatorily. There were a few kshatriyas like Janaka and Asvapati Kaikeya who taught the brahmians but it was more an exception than rule. Women were not debarred in the early Vedic age from studying the scriptures and in fact there were women poetesses who were aurhors of some of the Vedic hymns such as Lopāmudrā and Apālā. Maitreyi wife of Yāñavalkya was a lady well versed in Brahman knowledge. Vācaknavī, a lady was so well versed in the Vedas as to challenge Yānavalkya himself who claimed pre-eminence in Vedic lore. Rg Veda v. 7.9 refers to women celibates pursuing studies. But in the period of Manu the women's position slid down. There is not much evidence to show how the vaiśyas and śūdras were edūcated, Since the economic well-being of the society depended to a great extent on agriculture and trade which were in the hands of vaiśyas, they must have had some sort of secular education besides vedic study. Similar is the case of śūdras who too contribute to the economy and culture of the land but they had no right to study the Vedas. Agriculture, cattle rearing, several arts and crafts like music and dancing, weaving and dyeing, woods, craft etc. were practised by śūdras. Perhaps they were given instruction hereditarily. That the śūdras were not totally debarred from study of the Vedas is evident from the fact mentioned by 'Saṅkara in his commentary of Brahmasūtra, iii. 4.36 that Vidura and Dharma Vyādha attained the highest knowledge and they imparted the same to others. These are however rare exceptions.

In ancient India of the Vedic period the system of education was standardised. Life in studentship did not admit of any change though course content may vary from place to place

1. Radha Kumud Mookerjee, Ancient Indian Education, Motilal Banarsi Doss, Delhi. p. 37.

The Atharva Veda (xi. 5) describes the system of studentship. A student has got to be initiated by an Āchārya through the performance of a ceremony called *upanayana*. The ceremony lasts three days when the teacher imparts to the disciple a new birth so to say and thenceforth he is called *dvija* (the twice born). He was first born to his parents which is his physical birth. The second birth brought about by the teacher is spiritual. The conduct of the student is henceforth marked by self restraint, penance, consecration to a life of discipline through regulations such as control of senses, begging etc. performance of Agni worship and living a dedicated life.

The aim of education according to several Vedic texts[2] was the attainment of the knowledge of the Supreme spirit or Brahman, Teacher was considered indispensable to obtain such knowledge. The Muṇḍaka Upaniṣad (1.2.3.) says, 'Let him, in order to understand this, take fuel in his hand and approach a Guru who is learned and dwells entirely in Brahman.' Taking the fuel in hand is a token that he is willing to serve the teacher and to tend the sacred fires. It was the sacred duty of the teacher the custodian of learning, nay an obligation he owed to the Rishis, the founding fathers of ancient wisdom, to transmit to proper pupils the culture and learning he is heir to. Such instruction may be imparted by a father to his son, or by the teacher to his devoted pupil possessing necessary qualities. The period of study was generally twelve years though there are cases where the study extended to thirty two years. The study commenced when the pupil was twelve years of age.

The student is enjoined to observe certain practices that inculcate in him certain qualities. He is to go around and beg for alms. This will inculcate in him a spirit of humility and train him to be non-possessive, non-egoistic. He is also required to tend the sacred fires and this enhkindles his mind with holy lustre. 'The students guard their teacher, his house and cattle.' (Sat. Br. iii. 6.2.15). The dignity of labour comes to be recognised by the pupil. The teacher and pupil should

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2. Taitt. Sam. iv. 1.7.1; Vāj. Sam. xxii. 22.

not stand nor walk nor lie down nor sit on a couch; but they should both sit on the ground. (Ait, Āran. V). The earnest pupil should overcome caste-pride, fame, sleep, anger, bragging, personal beauty and fragrance. He should remain unperturbed under any circumstances, self-restrined, self-denying, patient and collected (Brihad. iv. 4.23)

Learning does not stop with the first stage of life of a celibate. The pupil is exhorted to cultivate self study and self discipline in his life as a householder. Saunaka a householder approaches Āngirasa for instruction. There are cases of students like Svetaketu who do not reach the level of knowledge expected at fhe end of Brahmacharya and are then taught at home by their fathers. According to Sventaketu a pupil who has returned home after completing his study under a teacher is expected to spend two months with his teacher every year to refurbish his knowledge. This is something like a Refresher course of the modern days. The teacher who gives instruction in the minimum requirement of Vedic study viz. study of a single Veda is called an Ācārya who does not receive any prescribed fee except what is offered by the pupil at the end of the period of study. The teacher who gives further instruction in additional field er fields of study is permitted to accept a fee and he is called an Upādhyāya.

The Sūtra period following the period of Brāhmaṇa-Upanisad literature saw the emergence of a new type of Literature marked by brevity as an aid to memory which was thrown open to all. The advent of Buddhism accelerated this change. It was no longer necessary to spend 12 or 20 years to master the vast intricate material of Vedic literature and the sūtra literature called Smriti i.e. the subject of memory dealing with both religious and secular matter such as birth, death and marriage became the common possession of the whole people unlike the Sruti, the subject of hearing which involved special instruction under a Guru for a prolonged period confined to the eligible students alone. The sacrificial ritual involving the construction of altars lead to the beginnings of the study of Geometry and Algebra; Astronomy came to be developed in the attempts made

to find suitable times and seasons for the performance of sacrifice. Grammar and etymology were developed to serve as aids in the proper understanding and interpretation of Vedic texts. The Dharma sutras of Manu, Yājnavalkqa and others arose with a view to codify the laws governing social and political life. It may be noted that 'outside the circle of Brahmanical studies there were existing the secular arts and sciences which were normaly to be studied by the women of all castes and by the sūdras but is also implied that they were not unworthy of study by the men of the three twice born castes, provided they first completed their normal course of sacred studies. It may be further presumed that it was possible to find Brahmin teachers of these secular acts and sciences comprising the Arthasāstra, a subsidiary of the Atharvaveda.[3]

An impartant feature of the ancient educational system in North India dominated by Vedic studies was Oral teaching. Even after writing was introduced about 500 B,C. and writing materials came into use, the Vedic system of oral teaching

presisted not only in the north but wherever Vedic study was pursued and this may be seen even to-day. It continues to live in the memory of men devoted to it. Thus we see that learning by heart the sacred texts through constant repetition and rehearsal by both the teacher and taught was the method followed from the beginning. This system rests on personal contact between tha teacher and the phpil and this necessitated the pupil remaining in the home of the teacher (Gurukula vāsa) till the entire course of instruction was completed. Even in Fa Hien's time, 5th century A.D., the same oral tradition sre-vailed even among Buddhists. In the various kingdoms of north India that he visited he found the teacher transmitting knowledge orally and the traveller found no written copy which he could transcribe.

At the time of his visit to India (7 cent. A.D.) Hieun Tsang noticed instruction being given in Buddhist monasteries in five

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3. Kadha Kumud Mookerji, Ancient Indian Education, Motilal Banarsidass, p. 170 (Reprint 1974).

sciences viz. grammar, science of Arts and crafts, logic, Medicine and philosophy. We notice here a combination of religious and secular instruction comprising both theoretical and practical aspects. He saw the famous monastery of Kanchipura, a rendezvous for eminent scholars of the land. He records the existence of more than hundred monasteries in Tamil Nad with about 10000 Buddhist brethren.

The normal age for Upanayana or initiation the sacred lore is 8 for a brahmin, 11 for a kshatriya and 12 for a vaisya. This age limit however varies in different texts. The Upanayanam for the three castes involves certain external marks to distinguish the Brahmachari (one who attends on Brahma or Vedas.) They are 'Ajina' or upper garment made of the hide of a black buck in the case of a brahmin, of a spotted deer for a kshattiya and of a goat for a vaisya. The lower garment is made of cotton or wool of different colours to identify the three castes. The Brahmachari of the three castes shall hold a staff of varied length made of particular wood. They have also to wear a girdle round their waist made of muñja grass, bow string a thread respectively by the three castes. Lastly he should wear the sacred cord comprising three sets of three threads each, the 9 strands standing for Omkara and Gods like Agni, Vāyu etc. Shaving the head and arranging the hair etc. are also laid down in manuals of Smrtis.

'The brahmins' says J.H. Hutton 'provided an educational system which was well suited to prodcuing worthy officiants for the sacrifice and to safeguarding the economic and social stability of their families but their system neglected the training and intellectual advancement of the people whom they claimed to represent by divine ordinance.'[4]

The educational system of Ancient Tamil Nad, it be noted, was not vitiated by such exclusiveness. There appears to be no distinction in the commencement or duration of the course of education for any particular class of pupils. But wherever Vedic studies were pursued in Tamil Nad the north Indian pattern

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4. J.H. Hutton, Caste in India, p. 790, O.V.P. London, 1951.

was followed as evidenced by the inscriptions of the period of the cholas.

The period of the Upaniṣads was a period of enquiry into profound spiritual truths. The pupils ask questions and the teacher either gives discourseses or enters into a dialogue, with the pupil. Illustrations, stories, anecdotes, parables, all these were pressed into service in explaining intricate metaphysical truths. There was the praśnī (questioner), abhipraśnī (cross questioner), Praśna vivāka (answerer) and Pravācaka (expounder). Discussion as a method of study was characteristic of this period. The Chāndogya Upanisad gives an interesting episode of Svetaketu the father teaching his son how the Mind and its faculties depend upon the body for their proper functioning by submitting his own son to starvation for fifteen days. The boy forgot then the Vedas he had studied. He learns by personal experience the importance of food in keeping the mind active, playing a crucial role in learning.

There is no clear indication that in ancient Tamil Nad education was imparted to the bulk of the people not to speak of universal education. The students were perhaps taught to read and write and do some arithmetic that are of practical use in daily life and they soon took to their hereditary arts or professions. Those who wanted to specialise in classics sat at the feet of masters for some years and mastered them. Memorisation was the method adopted in gaining proficiency in any branch of study whether arithmetic arts or letters.

According to Tamil tradition there were three Academics for fostering advanced learning in Tamil and they comprised a band of erudite scholar-poets whose approval was sine qua non for the approval of any one's literary excellence. If the evidence of Nakkīrar were to be the model adopted by the literary critics of the Academy it was an age when scholarship did not bow to any sort of human or even divine power. The statement of Tolkāppiyar in Ceyyuḷ iyal 'Nallisaippulavar.... Vakutturaittaṉarē' bears testimony to a long period prior to Tolkāppiyar of the Prechristian era when higher learning was cultivated to an extent that theories of poetry were formulated by them even in that distant past.

There was no central Body to control the educational institutions in the land nor any uniformity of system of learning. Education was related to one's status in life or calling he is to take up. Yet there were perhaps centres of higher learning which functioned with the munificent gifts made by kings and Chieftains. We know for centain that individual kings and chieftains in the mediaeval period made land gifts for the maintenance of educational institutions run mostly by brahmins which imparted instruction more or less in Vedas and prabandhas in Sanskrit and Tamil more of a religo-philosophical kind than secular. As Thiruvaḷḷuvar would put it, the deeper one studies the greater will be his knowledge and wisdom in the same way as the deeper a man digs a sand-well, the greater the flow of fresh water.

The avernment of Tolkāppiyar that pride of Learning is the first among the four factors that contribute to the heroic sentiment (perumitam) stands testimony to a system of learning that was capable of producing an erudite scholar who could challenge the scholarship of his fellow scholars. This is evident in the life of Nakkirar, Oṭṭakkūthar, Villiputtūrār and such stalwarts in the long literary history of Tamil Nad. This type of perumitam goes by the name of Pāṇḍitya Vira in Sanskrit rhetorics as distinguished from Yuddhavira, dana vira and daya vira typified by such exemplars as Rama, Karna and Sibi respectively.

Among the motives that govern the separation of lovers from their beloved ladies Ōtal[5] or learning is cited as one. The implication is that the lover seeks higher educational attainments than the modicum of learning that he had acquired in his early age as a student in common with others. Baudhāyana Gṛhya sūtra (iii.1.46) also envisages a state when a student was permitted to go back to his teacher for further study for a period of four months. At the same time this should not be unduly prolonged. One has to get married and discharge his social obligations before he grows grey hairs, says the Grihyasūtra.

5. Tolk, Porul, Akat. 27.

In the Sangam days Education was a leveller. Age or birth did not count in the matter of extending honour to a person. A learned person junior in age was shown greater respect than an elderly man not so learned. Similarly a learned man though born in the lower stratum of society was held in great esteem than one not so learned though born in a higher caste.[6]

An examination of the cccupational and social groups to which they belonged shows that the poets and poetesses came from royalty, from agricultural and merchant classes and from various trades and crafts. Of the 147 poets in the Puṟanāṉūṟu anthology alone, about fifteen are women and fourteen are kings.[7] This and other anthologies include princesses and men and women of different groups such as the mountain and marauding class as well as medical men, mathematicians, astronomers, carpenters, blacksmiths and potters.[8] 'The names and occupations of the poets and poetesses of the Tamil country show that learning and poesy were not restricted to any particular sex or occupation and that poetic composition was indulged in not only by professional poets but also by others who found in poetry an accepted form of expressing their knowledge their thoughts and their emotions.'[9]

These poets succeeded the bards of the early Sangam period. 'The bard is a penpatetic with his traipe and his family whereas the poet journeys alone ; the bard and his troupe entertain, act, plays, sing, praise and dance and use musical accompaniment, whereas the poet instructs and counsels as one having authority, scholarship and learning with an unaccompanied technique of poesy.'[10]

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6. Puram, 183.
7. Lectures on Puṟanāṉūru, 8.1 S. S. W. P. Society. p. 30.
8. cf. Puram 30, 1-6.
9. Xavier S. Thdninayagam, Ancient Tamil Poet Educators, Tamil Culture Vol. VI No. 4, 1957.
10. Idid. p. 275-276.

The Jains played an important role in Tamil Nadu in the early centuries of the christian era till about the 7th century A.D. Being non-believers of the Vedas they abhorred sacrificial practices and laid stress on the moral aspect of life such as conquest of passion and desire and consequently the dominant aim of education according to the Jains was the pursuit of ethical values of life. This is evident in the lines of Nālaṭiyār 'Nenjattu nallam yām ennum natuvu nilaimaiyal kalvi alake alaku (131)—'Learning is an ornament of man provided such learning makes one a truly good and just man.' The Jains in the monasteries called 'Paḷḷi' gave instruction to the laity regarding Jain doctrines. Kavunti in cilappatikāram is a good example. The indipensability of learning to every human being is stressed by Thiruvaḷḷuvar in his aphorism 'kaṇṇuṭaiyavar enpar kaṟṟōr' '.......' it is only the learned who can be considered to have eyes not the one who possesses merely the physical eyes which in the absence of learning are but scar". Cīvakacintamaṇi echoes the idea in the line 'Kaipporuḷ koṭuttum kaṟṟal kaṟṟapin kaṇṇum ākum' (1595— 'Learning should be acquired even by sacrificing one's dear possessions and only learning so acquired serves him as true eyes (in perceiving things proper perspective).

The Jains attached to importance to the hierarchy of castes. It is no wonder they attached greater importance to learning than birth in a family of the so called upper caste. A learned man though born in what was considered to be a lower stratum of society is really greater, declares Nālaṭiyār, than one of the upper stratum who is not educated—'Kaṭai nilattār āyinum kaṟṟaṟintōrai Talai nilattu vaikkappaṭum.' (v. 133). This is an echo of the Puṟṟanāṉṟu sentiment referred to earlier.

Pavaṇanti, though he lived in the 12th century, his observations on the traits of an ideal teacher and pupil, the method of study etc., may be taken to reflect the ancient Tamil tradition of learning. A teacher must not only be well versed in the subjects he taught but must have certain qualities of head and heart which alone will make him a successful and useful teacher.

'A teacher shall be one who hails from a noble family: he should possess compassion, faith in God, liberality in outlook.

skill in communicating his ideas, patience, cheerfulness, unperturbability. unassailable and profound scholarship justice and fair play in dealing with students knowledge of worldly affairs and such other noble traits will enhance his reputatlon.

Three classes of pupils are distinguished by Pavaṇanti. The first category of pupil is one who like the proverbial swan is able to distinguish the grain from the chaff of what is offered and who digests what he has learnt by constant reflection. This is what is called Śravaṇam (listening) mananam (getting by heart what is learnt) and nididhyāsanam (repetitive reflection of what is learnt by memorisation) referred to in Vedic studies.

The second category of pupil just repeats what is taught by the teacher and lacks application and self effort. He repeats parrot like what he learnt by rote. The third category of pupil is incapable of retaining in memory fully what is taught by the teacher and is apt to forget the essential things taught and retain what is not useful.

This classification shows that admission of students was not governed solely by merit but equal opportunities were provided to all who sought knowledge and made to derive the merit of learning depending upon his capability. The qualities of patience and dompassion demanded of a teacher are only to accommodate such pupils who do not have the gift of imbibing all that is taught due to adverse heredity and environment Absolute discipline and service to teacher are the hall marks of a pupil.

Pevaṇanti has got something to say also on the choice of books that are conducive to the development of intellect and emotion of pupils in his sūtra 'curunkac collal etc.' which lists ten characteristics of a good text book such as brevity in diction, clarity of thought, sweetness of exposition, depth of ideas etc. The purpose study of the right type of books is to gain knowledge about virtue, wealth, happiness and liberation. This ideal is presented to us by Sanskrit writers like Bhāmaha and others.

We have some clue to the content of education from a verse in Ciruphanchamūlam (v. 86) which says that one should

gain knowleege in grammar and logic which ensures correct expression and analytical and rational thinking. Philosophy and Religion are the other subjects which contribute to the moral, spiritual and aesthetic development of individuals. All these have their finale in liberation or 'Vīḍu' One who is well versed in these five departments of learning will be considered an ideal citizen or eiṭṭar. (Śiṣṭa)

Education in ancient Tamil Nad was not restricted to the Gurukula pattern. It was not always confined to book learning or learning by rote. If we takes into account the numerous references to varied arts like sculpture, music, dance, architecture etc. to which not only do we have reference in the Sangam classics but we have had a continuity of living tradition down to recent times, we may have to envisage the existence of expert artist in ancient period who handed down their skill in their respective arts to their sons and devoted disciples who gained the skill by observation and practice.

Though it may be presumed that the ancient system of education in Tamil Nad was largely secular there is no clear indication even in Thirukkuraḷ to the content or method of education that prevailed then. 'Maṟappinum Ōttu Koḷalākum' suggests that the method of learning by rote was prevelent. The Epic Maṇimēkalai gives some clue to the Buddhist educational system. There were Buddhist monasteries in Puhār Kanchi and Vanchi. There were itenant teachers among them like Maṇimēkalai and Aravaṇa Aḍigaḷ who gave discourses based on the Tripiṭikas and Jātakas. The arts cultivated in the early Sangam period wcre starved as the Buddhists gained ascendancy in Tamil Nad consistent with their religious tenets which shunned music, dance and drama that contribute to emotional pleasures. Though writing was in vogue there is no clear evidence to pupils studying from leaf books. Perhaps instruction was by oral method (kēḷvi). Though Thirukkuraḷ shows traces of Vedism, Jainism and Buddhism yet it is larlgely humanistic. But the twin Epics show the remarkable impact of all these

religions on the people as evidenced by free philosophical discussions among their adherents each school trying woo and win adherents to their faith. Poets like Thiruvaḷḷuvar, Cāttanār and Iḷango may be regarded as greal educators of their times as all great poets are apart from a large number of teachers in village and groves about whom we know next to nothing.

A comparison of rhe ancient system of Education in North India and Tamil Nad reveals how while the system in the north was oriented towards the study of the Vedas and their ancillaries serving the needs of the first three castes, the same in Tamil Nadu did not confer any exclusive previlege to particular groups in society. Education in the latter was open to all and this is revealed by the fact that the poets of the Sangam age belong to both sexes and to a number of professions and classes. Poetesses like Nakkaṇṇaiyār, professionals like Maruthuwan Damodaranar, Koolavanikam Seethalai Sattanar are sure indications of this fact.

While the system of North Indian education centred largely round Vedic studies, sacrifice and rituals and allied sciences, the education in Tamil Nad was largely secular related to practical life (kuraḷ 392) spirituality and religion remaining in the back ground. Verses such as 'Ciṟappuṭai marapin poruḷum inpamum aṟattu vaḻippaṭūm,' 'Evvaḻi nallavar āṭavar avvaḻi nallai vāḻiya nilanē,' indicate the ideal towards which education was oriented. Education that does not breed altruism and social behaviour was considered to be purposeless. This is made clear by Thiruvaḷḷuvar in his verse 'Ulakattōṭu Oṭṭa Oḻukal' (140). Moral rectitude was emphasised (134). Dogmatism was decired and the mark of the wisdom consists in perceiving the truth in whichever camp it is found. Such rational thinking leading to the wisdom was emphasised by Thiruvaḷḷuvar (355). These stand in healthy contrast to the other systems of thought prevalent at that time which were not motivated by such an exalted ideal. The worthlessness of Education of a formal kind without culture was stressed by Thiruvalluvar (996). This is in sharp contrast to guild centred education shutting out certain sections of society from reaching the fountain of knowledge.

So far as the methodology concerned both the Educational system that obtained in the north as well as south in Tamil Nad was the Oral aural method. Memorisation was the way of imbibing knowledge. Unlike the modern class instruction, the teacher gave instruction in the ancient days in a manner that individual attention was possible. This was true in both systems. Both systems stressed the importance of proficiency of learning and competence in transmitting knowledge to the pupil on the part of the teacher and discipline, service to teacher and earnestness to learn on the part of the pupil.

Life Oriented Education of the Tamils

Dr. M. VELUSAMY

"Character is most fundamental in the personality of an individual. Mere Vocational preparation does not make the whole individual. Hence, an education which is vocational, which develops proper attitude towards vocation and which builds up character may be termed Life Oriented Education. In the educational system of Sangam Tamils, theoretical, vocational, cultural and character education were integrated."

The term Life Oriented Education is as such a term recently coined by our Honourable Chief Minister Thiru. M. G. Ramachandran. This is a new programme in the educational history of our state. In the words of our Chief Minister "Our Noon Meal Programme and proposed vocational system are meant to prepare the young pupils for employment oriented learning."[1] According to Thiru. C. Aranganayagam, our state education minister, "it is designed to prepare youth for purposeful work, and healthy living. In a democracy such as ours, it is necessary that the schools prepare every individual to assume his responsibility as a home member and as a worker."[2]

Salient features of LOE

The main thrust in this educational programme is exposure to manual skill and the gradual learning of vocational skill.

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1. Dr. M. G. Ramachandran, *Chief Minister's Scheme of Life Oriented Education,* Madras; Directorate of School Education, 1985, p. 6.

2. C. Aranganayagam, *Chief Minister's Scheme of Life Oriented Education,* Madras: Directorate of School Education, 1985, p. 111.

It is expected that vocational preparation of young people at the school stage will help to bridge the gap between the school and the world of work. It is conceived under the plan that this vocational preparation should be in accordance with the life needs of the people and the vocations that the children learn must be relevant and applicable to the economic milieu of the various localities. Moreover, it is aimed at generating in the minds of young people, a welcoming attitude towards self employment which is sadly lacking nowadays. Thus LOE[3] is introduced "to prepare younger generation for their role as healthy, well informed, enlightened, loyal and socially useful citizens fully equipped with academic abilities and vocational skills to earn their livelihood."[4]

The foregoing description brings to light the following salient features of LOE:

1. It is a system of vocational preparation.
2. It develops favourable attitude towards self employment.
3. It prepares youth for healthy living.

Operational definition

These salient features helps us to arrive at an operational difinition of LOE. We may operationally define LOE as,

a. an education which provides vocational training so as to prepare a student for his future life;

b. an education which develops proper attitude towards self employment and dignity of labour and

c. an education which shapes the character and personality of future citizens,

There have been many aims of education in the recorded history of mankind. Vocational preparation has been one of them. Self-preservation is the first law of nature, and from the biological stand point all activities of an individual are

3. J. A. Ryan, *Chief Ministers Scheme of Life Oriented Education*, Madras: Directorate of School Education, 1985, P. 9.
4. The Abbreviation LOE is used hereafter in the place of Life Oriented Education,

directed to meet the physical requirements of life. However important in his desire to acquire knowledge, man's first consideration is developing his ability to earn his livelihood. Education has all along taken this vocational aim as an important aim of education as vocation is fundamental to one's life. This aim is said to be the "Bread and butter aim" of education.[5] Under this aim, vocational experience are insisted upon than purely theoretical knowledge.

Secondly, more than vocation perse, attitude towards vocation, that too developing proper attitude towards vocation is important. This favourable attitude is important to the choosing of the vocation itself. Character is most fundamental in the personality of an individual. Mere vocational preparation does not make the whole individual. Hence, an education which is vocational, which develops proper attitude towards vocation and which builds up character may be termed Life Oriented Education.

Approach of this paper

In this paper an attempt has been made to describe the nature of LOE of the Tamils during Sangam period.[6] After Sangam period the influence of other educational systems such as Buddhist and Vedic systems eclipsed the true nature of the Tamil's Education system.[7] Hence, its most appropriate to study the educational system during Sangam period if we want to know the true nature of it. For the same reason the study has been limited to Sangam period. The sources of study have been mainly,

1. Tholkappiyam
2. Pattuppattu and Ettuthogai and
3. Tirukkural

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5. S. K. Nanda, *Educational theory, Principles and Methods,* Jullundur; New Academic publishing co., 1982, p, 22.
6. According to M. Varadarajan Sangom period extends from BC, 500 to AD 200. M. Varadarajan, *Tamil Ilakkiya Varalaru,* New Delhi: Sahitya Academy, 1980, P. 18.
7. Ibid, PP. 18-19.

Life and Educational Aims

The educational system of a society evolves from the society's philosophy of life, ways of living, tradition and culture.[8] Vedic education systems testifies this fact. In the Aryan society of Vedic times religion played a very significant role in the lives of the people. Naturally spiritual ideas ruled their life. In the words of Radha kumud Mookerji, "Learning in India through the ages had been prized and pursued not for its own sake, if we may so put it, but for the sake and as a part of religion. It was sought as the means of salvation or self-realization, as the means to the highest end of life viz., 'Mukti' or Emancipation.'[9] Here we see that the society's life philosophy was itself the aim of education.

Similarly, the system of education during Sangam period was based on the then society's life philosophy, tradition, style, of living and culture. This was so because these factors like philosophy of life etc., are the foundation and education is the superstructure of any society.

Ancient Tamils talked of three essential factors,[10] namely,

1. Mudarporul, meaning the primary factors of place and time[11]

2. Karupporul, meaning flora and fauna[12] and

3. Uripporul denoting the distinctive features of the love aspect.[13] They had the knowledge of the land in which they were living and also about the nature of time. They considered the place and time as prime and fundamental factors. As a

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8. P.L. Rawat, *History of Indian Education*, Agra: Ram Prasad and Sons, 1976, P. 2.
9. Radha Kumud Mookerji, *Ancient Indian Education*, London: Macmillan and co., 1947, Prologue XXI
10. Tholkappiam: Porulathikaram: 3.
11. *Ibid* 4.
12. *Ibid* 20.
13. *Ibid* 16.

result of action of time on place, certain beings had their origin and these beings included flora and fauna. More specifically they included the deity of the land, eatables, birds, occupations and plants. In the third category were included features of people's love aspects.

We see that they had classified their life into 'Aham' and 'Puram'. 'Aham' included matters dealing with love. 'Puram' included matters dealing with war, politics, wealth, occupation, education and charity. 'Aham' itself had been classified into 'Kalavu' and 'Karpu'. 'Kalavu' denoted premarital love life and 'Karpu' denoted post marital love life.[14] 'Kalavu' and 'Karpu' were the two sides of the same coin.

Ancient Tamils appreciated family life. Their family life had certain special features. The prime duty of the husband and wife was considered to be hospitality.[15] Love and righteousness were the basis for every activity of their life. Family life was considered better than ascetic life.[16] It was considered that those who lived family life following proper way of life would surely reach divinity.[17]

We may say that righteousness, earning wealth and enjoyment of life constituted the life of Tamils. The great saint Thiruvalluvar in Thirukkural talked of righteousness, polity and love of domestic happiness. Tholkappiyar too mentions the above three only.[18] Neither Thiruvalluvar nor Tholkappiyar accepted 'Moksha' of the four-fold philosophy, namely, Dharma, Artha, Kama and Moksha of Sanskrit scholars.[19] The three fold

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14. K.K. Pillai, *Thamizhaga Varalaru Makkalum Panpadum.* Madras: Tamil Nadu Text Book Society, 1981, P. 132-133.

15. Kurinchippattu : 201-207.

16. Thirukkural : 46.

17. Thirukkural : 50

18. Tholkappiam : Porulathikaram : 89. Purananuru (28) also mentioned Aram porul and Inbam only.

19. K. K. Pillai, *Op. cit.* P. 132.

classification of 'Aram, Porul and Inbam' can be included under the classification of 'Agam' and 'Puram'.[20]

Among the Tamils, the idea of mortality was prevalent. In Tamil literature, 'Kanchi' denotes mortality.[21] This did not mean that they hated this worldly life because of its mortal nature. Contrary to this, they insisted that one should hasten his acts of fame and enjoy happiness which is righteous in nature. They also insisted that we should always be helpful to others. Poets expressed the idea that one should acquire the habit of feeling happy even when unpleasant experiences occur.[22] Tamils believed in destiny. The idea that destiny can be overpowered by effort was advocated by saints like Thiruvalluvar.[23]

Sangam poets praised this worldly life. Love and valour were the themes of their poems. All their poems were the explanations of the three, namely, righteousness, polity and love for domestic happiness.[24] As the philosophy of life of the Tamils was woven around this worldly life, their educational system too was centred around this worldly life which means that the main aim of education was to live this worldly life in its fullest.

Thiruvalluvar in four of his chapters of Thirukkural has explained about the virtues of education both in the positive and negative way.[25] In the beginning itself Thiruvalluvar says that one has to learn what one has to, thoroughly without error or doubt. After learning so, let him live upto that.[26] The

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20. T. Masilamani, "Sanga Kalam," in *Thamizhage Varalaru.* Madras: Saiva Sithantha Nool Pathippukkazhagam, 1954, P. 56.
21. Tholkappiam : Porulathikaram : 76.
22. Purananooru : 194 *Illakkiyam Koorum Thamizhar Vazhviyal* C. Ilakkuvanar, Valluvar Pathippagam, Pudukottai, 1972, P. P. 75-76.
23. Thirukkural : 620.
24. Tholkappiam : Porulathikaram : 411.
25. Thirukkural : 391-430.
26. Thirukkural : 391.

relationship between life and education has been brought out cleatly in this Kural. Even if unlettered, let on listen to learned men ; in times of despondency, it will be a staff to lean on.[27] Words from the mouths of men of righteous conduct are like a steadying staff on slippery ground.[28] Wisdom is a defence against disaster-an inner fortress which foes cannot destroy.[29] Those who can know beforehand what will happen are the wise ; those who cannot are the unwise.[30] Such verses stressed that education should be useful to one's life and that it should be related to one's life.

The laudable aim of Tamils was to live a life of righteousness, good citizenship and domestic happiness which were in turn based on "Aham" and "Puram." As the aim of education was derived from the aim of life, ultimately both the aims were the same.

Vocational Education

Tamils of Sangam period had classified land into four physiographic regions and the land was called "Nanilam'. The region of mountain and its adjacent area was called 'Kurinchi'. Forest and its adjacent area was called 'Mullai'. Agricultural land and its adjacent area was called "Marudam'. Sea and its adjacent area was called 'Neidal'.[31].

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27. *Ibid* : 414.
28. *Ibid* : 415.
29. *Ibid* : 421.
30. *Ibid* : 427.
31. Tholkappiam : Porulathikaram : 5.
    Owing to draught Kurinchi and Mullai regions became dry and were called 'Palai' region. (Silappathikaram : Kadukaan Kadai : 14, 16). So there was no original land as such for Palai. During Tholkappiyar's period, Palai was mentioned only in connection with features of love and not as a region. Quoted by, K. Vellaivaranan. *Tamil Illakkiya Varalaru Tholkappiam, Part II*. Annamalai Nagar : Annamalai University, 1957, p. 84.

People's style of living was dependent on the type of land. The people were called by different names depending on their region of living. Those who lived in the land' 'Kurinchi' were called 'Kunravar'; those lived in 'Mullai' were called 'Ayar'; those lived in 'Marudam' were called 'Uzhavar' and those lived in 'Neidal' were called 'Paradavar'. These people who were named on the basis of physiographic regions were collectively called 'Thinai Nilai Makkal I[32] Depending upon the nature of their physiographic region, the 'Thinai Nilai' people had their occupations.

Besides this, people were also called by different names based on the occupation they pursued.[33] Thus 'Vettuvar' was the term which indicated the people whose occupation was 'Vettai' - hunting. Similarly people were named depending on occupations like administration, trading, weaving, warring and smithy, including goldsmithy.

Ancient Tamils and their occupations may be diagrammatically presented as follows : (See Next Page)

On the basis of physiographic regions Tamils lived as four communities.[34] They putsued occupations specific to that region. Thus the whole of 'Kurinchi' society pursued hunting, honey collection and millet cultivation. The whole of "Mullai" society pursued the occupations of cattle grazing, selling milk products etc. Farming was common to the whole of 'Marudam'. Shipping and production of [salt were common to the people of 'Neidal'. Thus it was necessary for the people of a particular physiographic region to learn the occupation of that region. It became the inevitable duty of the people to teach their youngsters the occupations of the particular region.

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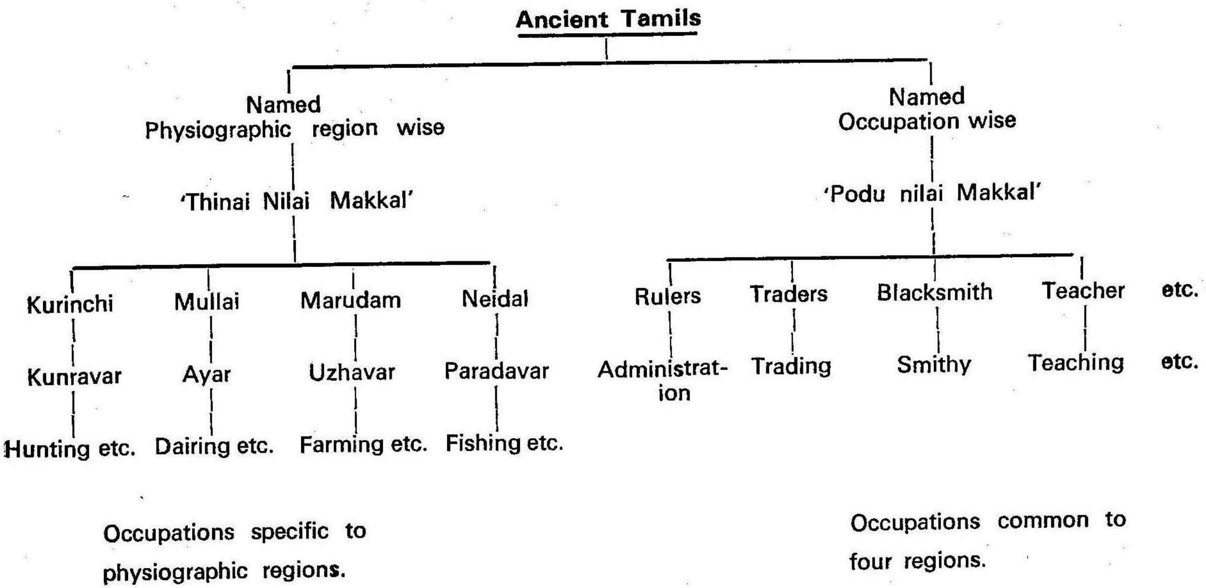
32. Avvai Su. Duraisamy Pillai, "Purananeoru Kattum Thamizh Nagareekam," *Purananootru Sorpozhivugal,* Madras : Saiva Sithanda Noor Pathippukkazhagam, 1956, p. 196.

33. K. Vellaivaranan, *Op. cit.* p. 85.

34. Thamizhannal, *Tamil Ilakkiya Varalaru,* Madurai : Anbuselvi Pathippakam; 1984, p. 23.


Ancient Tamils
Named
Physiographic region wise
'Thinai Nilai Makkal'
Kurinchi
Kunravar
Hunting etc.
Mullai
Ayar
Dairing etc.
Marudam
Uzhavar
Farming etc.
Neidal
Paradavar
Fishing etc.
Occupations specific to
physiographic regions.
Named
Occupation wise
'Podu nilai Makkal'
Rulers
Administrat-
ion
Traders
Trading
Blacksmith
Smithy
Teacher
Teaching
etc.
etc.
Occupations common to
four regions.

To help the specific occupations of the four physiographic regions, there were a number of ancillary occupations. They included occupations like smithy, carpentry, pottery etc., Along with these, administration, trading, teaching and medicine were also essential occupations.[35] In very village a few families pursued the occupations specific to their physiographic region in a small measure and pursued the common occupations to a greater measure and they were called 'Podu Nilai Makkal'.[36] They followed these occupations traditionally. After the father the son pursued the job.

From the foregoing discussion it is clear that among the ancient Tamils every family was engaged in certain occupation or occupations. These occupations were basic to their life. Teaching and learning these vocations were considered important educational activities. The fundamental objective of these educational activities were to prepare the future generation to be efficient in their vocation and make them people of good character.

We do do not have evidence to state that there existed any special institution for imparting training in the two groups of occupation mentioned above. Generally, the vocational skill acquired by the family was passed on from generation to generation and usually children took to parent's occupation. Because of these reasons we find that vocational training was given only by the family especially by the parents. Father had a greater role to play than the mother. A poem in 'Purananuru' collection[37] states that it is the duty of the father to make his

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35. The Aryan theory that mankind is divided into four varnas or groups of caste, such as Brahman, Kshatriva, Vaisya and Sudra was wholly foreign to the southern Dravidians. Caste was non existent. Reference in T. R. Sesha Iyengar, *Dravidian India*, Madras: C. K. Coomaraswamy Naidu and sons, 1933. p. 188.

36. Avvai. S. Thuraisamy Pillai. *OP. cit.,* P. 196.
37. Purananooru : 312:2.

son a 'Sanron'.[38] Thiruvalluvar also says that the service a father does to his son is to equip him to be foremost in the assembly of learned men,[39] As vocational training was given by the father from an earlier period under the direct control of the father, children could easily become efficient in their respective occupations. This fact can be inferred from the words of 'Avvayar'. Avvayar says that a carpenter's children who are skilled and efficient in their traditional occupation when go into the woods taking the tool 'Mazhu' they will certainly get plenty of wood.[40]

When we say that the family taught the vocational skills to the children of the family, it does not mean that it was taught in a formal way as in a school. Children got the skill in an informal way. It was not merely a question of actual teaching, but the boy would day by day absorb unconsciously the skills and traditions of the particular craft of his family. There is a proverb in Tamil which says that traditional occupation will be learnt without being taught ('Kulathozhil Kallamal Pahampadum').[41] Naturally children learned their family occu-

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38. According to the commentary on Purananooru, 'Sanron Aakkuthal' means that it is the duty of the father to make his son to have parctice in armoury as his education, possess necessary knowledge and appropriate actions in the field. From this we infer that there are three processes like getting training from the teacher, getting knowledge from the teacher and practising what he has learnt. *"Purananooru Moolamum Pazhaya Uraiyum* Edited by U. V. Swaminatha Iyer. Madras: U. V. Swaminatha Iyer Nool Nilayam, 1971, p. 486. According to 'Paattum Thokaiyum' Published by Rajan (p. 80) 'Sanron' means he who is full of knowledge and character.
39. Thirukkural: 67,
40. Purananooru: 206.
41. Pazhamozhi Nanooru: 21. The proverb "Kluathozhil Kallamal Pakam Padum" is found in Pazhamozhi Nanooru Since it is accepted and used in the literature during the period of "Pathinen Keezh Kanakku" it might have originated and been used during Sangam period or even before Sangam period.

pations because ot their close association with parents. They however attained perfection through intertional training in an informal way.

Gurumurthi's statement that "Education was largely a private concern of the people"[42] and Thiruvenkatachair's statement that "Education was mostly a training in the family vocation imparted either by the father or both the parents, depending on the types of vocation"[43] endorse the above idea that vocational education was given in family itself.

The vocational training given by the family was part and parcel of its daily activities. Observation and learning by doing were the methods by which this education had been given.

Scholars are of the view that the practice of naming people after their vocation itself is a evidence to show the excellence of people's vocational knowledge.[44] From Tholkappiyam it can be inferred that there were three categories of people, depending on their skill in a vocation.[45] The first category of people were called 'Yeval Marapinar', who commanded work from others. Second category included 'Vinaivalar', meaning who had mastery in certain vocations. The third category included 'Adiyar' meaning people who were labourers.[46] As for vocational skills, they may be called masters, skilled craftsmen and unskilled labourers respectively. This classification also highlights their vocational expertise.

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42. S. Gurumoorthi, *Education in South India (Ancient and Medieval Periods)*, Madras: New Era Publications, 1979, p. 1.
43. S. Thiruvenkatachari, Studies in Education in the Tamil country, unpublished Ph. D. Thesis of Madurai University, 1972. p. 25.
44. Avvai Su. Duraisamy Pillai, ***Op. cit.*** P. 201.
45. Tholkappiyam: Porulathikaram: 25, 26.
46. T.S. Balasundaram Pillai, *Commentry on Tholkappiyam*, Madras: Saiva Sithanda Noolpathippukkazham. 1954, p. 231.

Character Training

As the family fulfilled its responsibility of providing vocational education, so also, it played a major role in the development of the character of their children. Parents gave much importance to their children's character and culture. Society always held parents in close association with the character of their children.[47] Parents were held in esteem because of their children's good character and so the parents were very happy.[48] The development of the individual was identified with that of the family and community.[49] Similarly, for the, wellbeing of a society, individual's nobility was said to be an important factor.[50] Hence character and culture were given high importance in the society. The duty of inculcating right type of character and culture was the duty of the parents.[51] Father's role was considered more than that of the mother,[52] It should be noted that character education was not given through religion or formal instruction. It was given only through the example of the parents and the society. Thus one can see that family gave character education along with vocational education.

Literary Education and Preparation for Life

According to keay, "it seems clear that there was in ancient times in South India a system of education connected with Tamil culture as distinguished fron the Aryan culture which came from North India. This is emphasized by the existence in early days of Tamil grammatical works and highly developed poetry and other evidences of cultural activities."[53] From this statement one can infer that there was a good system of education in the ancient Tamil Nadu and that it was

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47. Thirukkural: 70
48. *Ibid* : 69.
49. Purananooru: 191.
50. *Ibid*: 182.
51. *Ibid*: 312.
52. Thirukkural: 67.
53. F. E. Keay, *A. History of Education in India and Pakistan,* London: Oxford University Press, 1964, p. 179.

different from Brahminic education. Both grammar and literature found a special place in this education.

There were experts in each major area of education. They were called, "Pal kelvi Thurai Pohia Tolanai Nallasiriyar." The word 'Tol Anai' denoted people who had their education in the best of tradition. In the words of Ilakkurvanar every house of an expert was a college by itself.[54] In these houses, selected students stayed with the teachers in order to get lessons. According to Thiruvenkatachari, "Some kind of a Gurukula system developed in the Tamil country and distinguished teachers received and taught worthy pupils."[55]

Though it was literary educatjon, it did not dissociate itself from the life of the people. Life orientation formed a part of it at various stages. In this system of education students stayed with teachers, and a close relationship developed between them. Teachers of those days possessed exemplary character and they proved to be ideal models for students[56] Through the teachers, culture of the society reached the students as students followed the ways of life of teachers. In this way students were prepared for a virtuous life. 'Purananuru' states that it would be good that students learn their lessons by doing dedicated service to the teachers or by offering wealth with great humility.[57] According to Thiruvalluvar, those who learnt even by standing before their teachers wistfully, like the have-nots before the haves, are great.[58] Learning in this way developed humility in them. Students in this process also did domestic help to the teachers. By doing so, the students got training in domestic chores and in social interaction. They also had chances of learning dignity of labour.

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54. C. Ilakkuvanar. *Op. cit.* p. 48.
55. S. Thiruvenkatachari, *Op. cit,* p. 42.
56. K.K. Pillai. ***A Social History of the Tamils,*** Madras: University of Madras, 1975, p. 402.
57. Purananooru: 183.
58. Thirukkural: .395.

While learning, students got alms and thus got their food.[59] It was thought as a good practice. This in turn developed humility in the students. It also developed his sense of indebtedness to the society. The society in turn could realize its duty towards the younger geneartion. This system also helped to do away with the class differences among the students.

Harmony between Vocation and Literary Education

Evidently, the ancient Tamil education was not merely theoretical, but was related to the realities of life. Poets of those days were not mere poets. Besides having literary and grammatical knowledge, they had also possessed vocational skills suited to them. The prefixes arrached to their names indicated the vocations they were engaged in. For example, a poet called Madurai Aruvai Vanigan Ilavettanar[60] had engaged in the vocation of selling cloth. Likewise, Damodaranar[61] pursued the vocation of medicine. Vennaganar[62] was a goldsmith. Poongundranar[63] was an astrologer. Nallanduvanar[64] was a teacher. Ilandevanar[65] was a merchant. Seethlai Chattanar[66] ran a grocery shop. All these examples show that ancient Tamil scholars got vocational education along with literary education. They had evolved a special form of education whereby harmony was established between vocational education and literary education.

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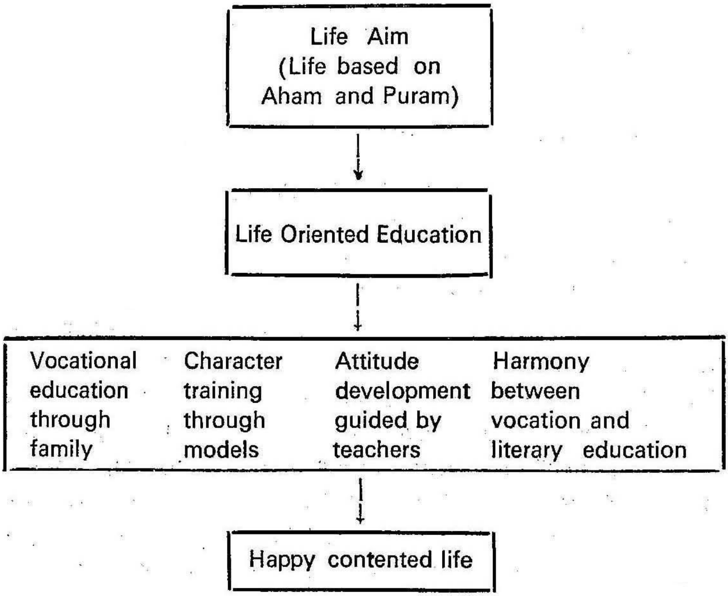
59. Kurunthohai: 33.
60. Purananooru: 329.
61. *Ibid*: 60, 170, 321.
62. Narrinai: 313.
63. Purananooru: 192.
64. Ahananooru: 43,
65. *Ibid*: 58.
66. Ahananooru: 53, Purananooru: 59.

The following diagram shows the salient features of the Life Oriented Education of Sangam Tamils.



It may be concluded on the evidence available from Tamil literature that in the educational system of Sangam Tamils, theroretical education and aspects of Life Oriented Education such as vocational education, character education and cultural education were integrated in such a way as to fulfill the life philosophy of the Tamils.

Vedic Education and Tamil Education-A Comparative Study

Dr. K. ADINARAYANA

"Education was recognised as a means to attain salvation. Its importance was equally emphasised in Tamil Education as well as in Vedic Education. The major aims and ideals of Education during the Vedic period were to promote harmonious development of body, mind and soul and infusion of spirit of picty and religiousness whareas in Tamil Education it was inculcation of civic and social duties and spread of national culture. Both of them succeeded to a great extent in infusing a sense of civic responsibility and promoting social happiness."

Introduction

This paper is an attempt to compare the educational system of Tamil education with the Vedic Education. A study is comparative if we take atleast two entities and establish a formal precedure for obtaining criterion data, on the basis of which we can compare the entities and come to some conclusion as to which is best. For example, a comparison of educational principles and postulates, would be a simple, comparative survey using one criterion for comparison. A comparative survey is a sensible research approach only when there are worthwhile things to compare.

The study is confined to the comparison of a few areas, namely, concept of education, aims and ideals of education, characteristics of teachers and students, methods and techniques of teaching, organization of educational centres, development of education, teaching and significance of rituals. No attempt has been made to have an indepth comparison in areas like vocational education, higher education and female education.

A comparative survey do not provide evidence for an inference of cause and effect than the correlational studies. It is only suggestive and are most effectively used as a means for generating general conclusions. As such this paper is an attempt to find out the similarities in both the educational systems. It means the emphasis is more on identifying the common characteristics than finding out the differences. This approach is closer to find out the basic principles and visualising the unity of knowledge.

II.0. Tamil Education Development

The unique feature of Tamil education is that the formation of her civilization was influenced not so much by political, economical or social factors as by spiritualism. Tamil culture was characterised by width of vision giving birth to the conception of humanity and multi-dimonsional progress of all mankind. It has a message of peace and high spiritual values to the world.

There was in ancient times in Tamilnadu a system of education connected with Tamil culture as distinguished from Aryan culture which came from north India. This is emphasised by the existence in early days of Tamil grammatical words and highly developed poetry and other evidences of cultural activities.

The education evolution in Tamil education was founded on the basic spiritual sentiments and noble principles. The entire creation of Tamil literature, science and arts in the ancient times reflected her endeavour to reach the highest end of life 'Mukti'.

During the ancient period in Tamilnadu the teacher was made to live an unsophisticated and chase life. He would not remained contented with mere bookish learning, but acquire fairly practical knowledge of the world and society through his close contact with the people. The Tamil education system was wedded to the practical ends of life, namely, dignity of labour and social service. In the educational field her contribution was higely significant sounding the depth of meta-physical and philosophical thought, dispelled the gloom of ignorance and

developed the capacity to illuminate the world with her knowledge, presented a measuring rod for human civilization, evolved a special form of education whereby harmony was established between materialism and spiritualism. The human life was lead to greater perfection.

II.1. Literature

Tamil education was developed with a remarkable literature and there is evidence of much artistic skill. The kings patronized literature, music, and the drama. The ancient Tamil period had a civilization of its own and a Tamil culture flourished. The earliest Tamil poems, probably in praise of Gods and kings. Later a refined and conventional language for poetry was developed. An ancient Tamil grammar called the Tolkappiyam composed in early centuries of the Christian era. The treatise of Tolkappianar fixed the rules of grammar for the Tamil language. At a later stage another book, namely Virasoliyam was produced. Both these works have been superseeded by the Nannul of the thirteenth century which is still the recognized authority. Its author was Pavanandi.

II.2. Nannul Sutras

The authur of the Nannul says that there are six classes of pupils who may come for iustruction. They are, (i) Teacher's son, (ii) teacher's teacher son, (iii) the rich man's son (who is able to pay), (iv) the King's son, (v) the desciple and (vi) the willing and capable pupil who is keen on his studies.

A very high standard was expected in teaching. The teacher should have a complete mastery of his subject before he starts his lesson. He should begin at an auspicious time and at a sacred place. He should be free from fear, want, disease and discomfort.

II. 3. Sangams

According to the tradition Madurai was the seat of Sangam or Academy. To this Sangam learned scholars were invited from time to time by the ruling King to discuss the progress

of Tamil. It was a seat to judge the standards of workdone during that period.

II. 4. Maths

The Maths were found during the Tamil education were generally connected with temples and some of them became seats of learning. Kanchipuram was at one time an outpost of Sanskrit culture, but later on became a centre of Tamil culture.

III. 0. Vedic Education Development

Education in Ancient India can be divided into (i) Vedic age (from pre-historic times to 1000 B. C.) (ii) age of Upanishads the Sutras and epics (100 BC to 200 BC), (iii) age of Dharmasastra (200 B. C. to 500 A. D.) and (iv) age of Puranas (500 AD to 1200 AD). In the vedic age the Aryans were keen to make progress in the field of knowledge and realised that the intellectual development was the corner stone of human progress. The vedic age provided a strong foundation in religion and literary love, strong in intellect and efficient in the family profession. It was able to generate and spread a superior Aryan culture. In the later ages a remarkable achievement in literature, philosophy, Mathematics, Astronomy, etc., was noticed.

III. 1. Curriculum

In the early vedic period the education was confined to preparing the students as priests. It became the privilege of the Brahmans to give instructions in vedic studies, (before 500 B. C.) Brahman schools of Sanskrit learning were indeed scattered all over the towns and villages. These institutions were known as ToLS. In some important towns number of these tols were established and constituted a kind of University (Banaras, Nadia, etc.). The curriculum was very much confined to grammar, law, the puranas, vedas, and smritis. The period of studentship was looked upon not only as a time of learning, but as a time of rigorous discipline. Rules were laid down for the conduct of both teachers and pupils. There were many sacred rites to be performed from time to time. The upanayana or initiative ceremony was the first stage to enter upon studentship.

III. 2. Specialization

Specialization begun in very early times and special schools for various subjects, which include grammar, law and astronomy were established. The science of medicine was also developed. Memorizing the sacred books was the major task of the student. For a better understanding suitable explanation was given by the teachers.

III. 3. Parishads

During the vedic period there existed Brahmanic settlements and in connection with them Parishads or assemblies of learned scholars which gave decisions on all points connected with the Brahmanic religion and learning. The parishads were in some respects like Judicial assemblies, composed mostly teachers. They correspond to a certain extent to the association of teachers where different faculties represented. These Parishads formed the nucleous of something corresponding to University

IV. 0. Concept of Education

Education was recognised as a means to attain salvation. Its importance was equally emphasised in Tamil Education as well as in Vedic education. The Tamil education considered education as a tool leading to a happy life. It was considered as wealth which cannot be destroyed by any means. During vedic period Education was considered as an agency which brings transformation in a variety of ways, sharpens the intellect, improving the faculty of discrimination, and protecting from falling into errors. A comparison of the concept of education in the two periods are given below :

	Tamil Education	Vedic Education
1.	Education is wealth which cannot be destroyed.	Education is self culture and the process continues throughout the life.
2.	Education raises the dignity and personality of an individual.	Education refines and strengthens moral life.

3. Education is a source which transmits it's benefits to seven generations.	It leads to salvation and enables to realise the true value of life.
4. Education leads to a happy life not only to the individual but to the whole world.	Education is a source of illumination giving correct lead in the various spheres of life.
5. Education helps for intellectual development through the interaction with the environment.	Education develop and refine intellect.
6. Education gives respect, recognition and status to scholars wherever he visits.	Education is an agency of development of physical, mental and spiritual values.

During Tamil education the emphasis was more on a happy life in this world and education was considered as means to attain the same, whereas during vedic education the spiritual aspect was mostly emphasised and education was considered as means to attain salvation. In both the systems education was considered as a source of illumination with diverse functions. The analogy that education nurishes like mother, directs the path like father, and gives delight and comfort like wife holds good for both the systems. Education was considered as the root of all human happiness, increase efficiency, get fame and wealth by securing respect in public assemblies and royal courts, promotes material as well as spiritual welfare.

V. Aims and Ideals of Education

In ancient Tamil the major aim of education was to interact with the society and enrich the heritage of the same. They strive hard to maintain very high standard of life in society.

A few aims are compared below :

Tamil Education	Vedic Education
1. To develop an integrated personality	Formation of character through the development of moral feelings, good manners and through the influence glorification of National heroes.
2. To produce individuals who will strive hard to enrich the culture and transmit to the next generation	Establishment of social and cultural continuity through preservation and spread of national heritage.
3. To help the individual to acquire a knowledge of the society, environment and the world.	Infusion of picty and religiousness in the minds of young students under a spiritual background.
4. To inculcate social and civic duties and promotion of social efficiency and happiness.	Development of personality through the development of self confidence, self respect and inculcating the virtue of self restraint and by fostering the powers of discrimination and judgement.

The major aims and ideals of Education during the vedic period were to promote harmonious development of body, mind and soul and infusion of spirit of picty and religiousness whereas in Tamil education it was inculcation of civic and social duties and spread of national culture.

VI. Methods of Teaching

A comparison of the methods of teaching in the two systems indicates that a systematic method was followed by

teachers and in many cases it was a comprehensive analytical technique :

Tamil Education	Vedic Education
1. Study the reterence books and find out the summary of the subject matter.	The teacher pronounce two words of the vedic staza at a time.
2. Analyse the statements into convenient parts and important terms.	The student recite with exact intonation and accent.
3. Explain the meaning of each word and statement.	The process repeated for the entire verse and taught to one student at a time.
4. Group the parts in an integrated way.	Teaching by extensive lectures exhaustive discussions.
5. Give examples wherever necessary pose suitable problems.	Raise doubts on obseure themes.
6. Find out the solution of the problems.	Debates and discussion in the library training.
7. Explain the importance and significance of the statement.	The use of parables, principles of politics under the guide of telling stories about animals.
8. Quote the authority with which the statements are given.	A dialogue method.
9. Develop confidence in what you teach.	
10. Discussion for the topic is applicable in daily life.	Comparison and observation to develop the power of understanding.
11. Clarify the doubts with your own explanation and with the views presented by others.	Monitorial system for effective supervision.
12. Discuss till the students get clarification for the doubts and till they find the truth of the statement.	

All possible attempts were made by the teacher to follow various techniques of teaching for effective learning. In the early stages vedic education gave importance for reading and recitation but later on switched over to discussion methods. Students were given sufficient scope to interact with the teacher with his own ideas.

VII. Characteristics of Students and their duties : Nannul Sutras

Educational system tried to reproduce in the student life the atmosphere and the conditions existing outside in the actual life providing practical training in the rituals they were expected to perform in their after life, learning the details and the techniques of the art and trade and helping the teachers as apprentices in the professional work.

VII. 1. Characteristics that are not desirable

The author of the Nannul says that pupil with the characteristics, laziness, bad habits like drinking, smoking, arragonance, probed, sexy, theif, coward, lack of mental thinking, angry, person who sleeps too much, very dull, afraid of seeing, voluminess books, sinner and a lier are not desirable. It is interesting to note that the students were expected to follow good habits and they should resourceful, brave, polite, active, liking towards reading books, etc.,

VII. 2. Method of Learning

According to Nannul the student was expected to follow a very systematic method in the process of learning. The method is,

1. Approach the teacher at the right time and at the right age
2. Request the teacher with the right attitude
3. Behave according to the will and desire of the teacher
4. Follow according to the directions of the teacher
5. Read and recite as per the instructions

6. Listen what the teacher says with full concentration
7. Understand the concepts well and
8. Keep them in memory.

VII. 3. Method of Reading Books

In order to have a good understanding of the subject matter it was consider essential to study the characteristics of the author of the book, read the topics carefully analyse the concepts critically, reason out what the author says, discuss the same points with others, raise questions and find out the solution for the same.

VII. 4. Duties of Students in Vedic period

In the case of vedic education the students was expected to (i) to hold his teacher in deep reverance and honour him like king, parent and god, (ii) to behave in confirmity with the rules of decorum and good manners, (iii) to do the personal service, like a son, (iv) to collect food daily from the nearby community, (v) observe strict calibacy even in speech and thought, (vi) observe plain living and high thinking and (vii) to control their passions and desires.

It is observed that the student and teacher relationship in both the systems was cordial and direct and not through any institution. There was mutual contact between the teacher and the student in the after life (after the completion of the course). The teacher was esteemed very high by the student.

VIII. 1. Characteristics of teachers and their duties : Tamil Education

1. The teacher according to Nannul has to discharge major responsibilities representing as a symbol of culture. He should be very generous showing love and affection towards all living beings. He should be a person having faith in God and his powers. The teacher should be a highly learned scholar with a through knowledge of number of standard books. He should have professional competency, the ability to explain clearly to the students.

2. The teacher is compared to the vast land, mountain, flower and a balance. The teacher was expected a vast store of knowledge that cannot be estimated by others, patience to withstand any defect pointed and the ability to withstand any insult imposed on him during discussions. The students were blessed with knowledge according to efforts taken by them.

3. The teacher should possess not only a depth of knowledge but also a wide knowledge which is impossible to measure. Even people at distant places must be able to visualize the wisdom of the teacher. While giving knowledge he should not discriminate poor and rich pupils. He should be impartial in his dealings with the students, open minded and receptive to ideas from the students and giving pleasure of his company with his students.

VIII. 2. Students in vedic period

During vedic period the teacher was involved in many activities. He was made morally responsible for the development of good character among his students. He was expected to give guidance to attain spiritual salvation. In addition to imparting vedic education he was involved in extra activities, like cultivating good habits, giving instructions regarding food and sleep, to nurse and serve the students as a father would do his son.

The teacher was expected to transmit the store of knowledge continuously and to place at the disposal of his pupil, the essence of all his experiences. He should be a person with a very high character, with a thorough knowledge in his field of specialisation, clear expression, presence of mind, introducing humour during teaching, a great stock of interesting anecdotes, the ability to explain the most difficult subject clearly, inspire his picty character, scholarship and cultural life to his students.

It is seen from both the systems the teacher was expected to perform multi-roles. The character of the teacher and his personal behaviour were considered more important than his

professional competency. The teacher was expected to imbide his qualities to his students.

VIII. 3. Income of the Teacher

In South Indian temple colleges the income of the teacher varied from 160 to 200 mounds of rice sufficient to meet the normal food expenses of a family of five persons.

In ancient India the income of the teacher was not fixed and it varied from time to time. Generally the teachers were also in-charge of temples and the income was partially through the voluntary gifts given by his students.

In general it is observed that the teacher in vedic period and the teacher in Tamil period were getting an income just to enable him to lead, a life ot moderate comforts according to the ideas of plain living and high thinking.

VIII. 4. Types of Teachers

It was interesting to note that the designation of the teacher changed, according to stage of education. The general name given to a teacher in Tamil education was *Aciriyan* and the same still continues. A teacher was specially engaged in teaching children was designated as *Palaciriyan*. When the teacher was attached to infant or junior children he was called as *Ilampalaciriyan*. Special names were given to teachers who were involved in various professions. For example *Panikkar* is the teacher who was incharge of military art. *Achan* was another name popularly used for teachers who have acquired a mastery of knowledge; capable of giving spiritual guidance.

During the vedic period or subsequent period such designations were not clearly specified. The teacher was considered as Guru and the place attached to his residence as Gurukula. The presence of the terms Upadhyana and Upadhyaylni were used frequently at various stages of education. Upadhyayini was a special term aimed to denote lady teachers.

IX. 0. Educational Centres

A close study of the administration and organisation of centres of learning in ancient Tamilnadu provides us valuable information, about the patronage, layout and buildings, physical facilities, admission procedures, etc., A few centres in South India flourished as centres of learning. Among them, Ennayiram, Thirumukkudal, Thiruvoriyar, Malkapuram, were well recognised as educational institutions under the designation Temple Colleges.

Ennayiram temple college was situated in South Arcot District engaged in teaching with pre-determined curriculam. Regular salaries were given to teachers. The subjects taught were grammar, Mimamsa and Vedas. Thirumukkudal and Thiruvoriyur were established centres in Chingleput District. A hospital was also attached to the college. Thiruvoriyur college was specially devoted to teaching grammar. Malkapuram college was located in a big hall adjoining in a local Siva Temple.

In addition to the above institutions there existed a few Brahman colonies in villeges. These villeges were called as Agraharams. The major curriculam was the study of grammar, logic and vedas.

During Vedic period Parishads, assemblies of learned Brahmans, well versed in Vedas. philosophy, theology and law were famous centre of learning. Takshasila, Benaras, Nadia, Nalanda, Valabhi, Vikramasala, were a few centres of learning during ancient Indian period. The curriculum had been fairly wide in its scope. It included the study of vedas, vedanda philosophy, and eighteen arts like medicine, arachery, agriculture, etc., Baneras had been a famous centre of the Hindu religion for more than two thousand years. At Nadia the chief study was logic. The Parishads and temple colleges are compared.

Area	Temple Colleges	Parishads
Patronage	Established by local village communities.	Developed under the patronage of emperors during the respective periods

Lay out and buildings	Well organized institutions of the modern type	
Relation to religion	Attached to the temples	Attached to the residential teachers (Gurukulas)
Boarding and Lodging	The institutions had a few acres of land as endowment. Free boarding and lodging were provided to the students.	The centres have a few villages as endowment and so could offer boarding and lodging to its students.
No. of scholars and students	A few teachers and students ranging from 100 to 400	The Gurukulas were very much confined with 10 to 15 students with one teacher. Later institutions (Universities) were able to attract large number of students.
Salaries of teachers	Receiving salaries just sufficient for his normal family responsibilities.	The teacher had to depend on the gifts of teachers — later on in the well established institutions separate well furnished rooms were provided with good medical facilities,

It is observed that education was controlled for a considerable period by individual teachers and they were completely in charge of organising courses. The residence of teachers itself served as centre of learning. This trend slowly changed leading to the establishment of well organised institutions governed by a group or people or trustees. Kings as a rule were partrons of the educational centres, and so normally learned scholars were attracted towards the capitals of the Kingdoms.

X. Educational system: A few Noteworthy Points

X. 1. Educational Rituals

Religion had a deep impact in various walks of life. It was closely associated with education throughout the ancient period. Many rituals were connected with the student's life at various stages.

In South India before the commencement of the art of writing the student was required to worship Saraswathi, the Goddess of learning, Vinayaka, the God of Learning and the deities of the family. The boy was to be handed over to the teacher who in turn make the boy write on rice the alphabets with the help of fore-finger. Suitable presents were given to the teacher.

During the Vedic period the beginning of education was marked with Upanayana Sanskara. The education of the children were commenced with the memorisation of the sacred hymns, which were the most valued possession of the Aryans. The boy was taken to a sacred fire and was asked to offer a Samidh (a piece of fuel) and the verses were recited. The God fire was considered as auspicious to the child to endow him with brilliance, intelligence and vigour. Then the boy was presented to a number of vedic deitics.

Samavartana or a convocational ritual was performed at the end of the course. The student would proceed to the assembly of learned scholars and was introduced as a competent scholar by his teacher.

It is observed that in both the systems the initiation cere mony was considered as a first step in the life of the child. As the child entered the field of education at various stages, before the commencement of higher education, after the completion of the course, the child was exposed to rituals. They were performed knowing the significance of the event. At a later stage the rituals were performed blindly without knowing its significance.

X. 2. Gurukula System

Gurukula system was very popular during vedic period which necessiated the stay of the student away from his home at the house of a teacher or in a boarding house of established reputation. In this system there was continuous and direct content with a teacher of noble character. At later stages independent educational institutions were established in the name of temple colleges in South and Parishads (Universities) in North where arrangements were made for the lodging and boarding of students who flocked in hundreds and were maintained by village communities and a group of Trustees.

X. 3. Caste System

The caste system in the ancient Indian educational system had a long history and had undergone many changes and exercised considerable influence on the practice of education. It was considered that the rigidity in the caste system determined the profession and made the education a monopoly of the Brahmans. At a later stage in Buddhist centres of learning the caste system did not influence the educational system. However in Tamil education there is not evidence about the rigidity of caste system in the educational system. When the Aryan culture spread in South India the caste system perculated in Tamil culture also.

X. 4. Arts and Crafts Education

The educational system provided ample scope for theoretical and practical training in arts and crafts. It helped to raise the general level of the skill and workmanship in several arts and crafts. Paintings of Ajanta show the development to a very high extent. In South we find graceful as well as huge shrines which showed the Tamil architect.

X.5. Women's Education

Education during the vedic period imparted to all who were expected to take part in Vedic sacrifies irrespective of their sex. Upanayana a ritual before the commencement of education was common for both boys and girls. For a long time family

was the only educational institution for imparting female education. However female education received a great set back at a later stage due to prohibition of the vedic education to women and lowering the marriage age. During the Buddhist education women's education was given sufficient encouragement and produced many female scholars who contributed for the enrichment of culture. During Muslim rule rhere was again a great downfall for women's education.

In South India there are evidences of the contribution of women for the enrichment of Tamil culture. Ancient Tamil knows of queens and princesses who took active part in the administration of their kingdoms. In ordinary families fine arts were usually the areas of female education. Avviyar, Kakkaipadiniyar, poets have contributed much for the enrichment of literature.

XI. 0. Conclusions

Ancient Indian Educalional System, Tamil education, vedic education developed on some fundamental ideals of influsion of peity, formation of character, development of personality, inculcation of social duties, promotion of social happiness and preservation and spread of culture. Remarkable achievement was observed in both the systems in the formation of character and spread of culture. There was a set back in the achievement of these ideals due to invasion by muslims and instability of kingdoms in North India. But in South India surprising by a good amount of cultural heritage is to be seen even now mainly due to the successful preservation of Tamil culture and civilization through the efforts taken during Sangam periods and marvellous achievement in the enrichment of literature through Thirukkural, Tolkappiyam, Nannul, Pathinenkilkanakku, Siruprabandams, etc.,

Significant achievement was observed in the development of personality. We come across master personalities in different walk of life in Ancient Tamil like Tiruvalluvar, Tolkappianar, Pavanandi, etc., who contributed to the world a standard of life. But however in North India self-confidence and self-respect disappeared in a great measure when society suffered from foreign invasion.

The vedic system and Tamil education succeeded to a great extent in infusing a sense of civic responsibility and promoting social happiness. The educational systems have takan religious feelings for infusing the sense of civic responsibility.

During vedic period religious and semi-religious studies, like Philosophy, Theology, Ritualism were given undue importance when compared secular subjects like economics, politics, mathematics and astronomy. But it is observed during Tamil education the literary aspect of Tamil, poetry, drama was emphasized and at the same time sufficient recognition was given to vocational subjects and fine arts.

In later times the educated ceases to be creative and assimilative and became receptive and immicative. Education of masses were neglected. In spite of some drawbacks in the educational system the ancient educational system and Tamil education was able to attain a high standard of culture and emphasised the necessity of self-imposed discipline and stern regard for duty. It was able to preserve the rich heritage of the past but also able to enrich it and transmit it from generation to generation. Some of the broad principles of intellectual freedom to students, individual attention to students, plain living and high thinking were sound and capable of yielding good results.

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The Educational System of ancient Tamilnadu and Karnataka - A Comparative Study

Dr. P. VEERAPPAN

"In Tamilnadu, during the Sangam period no places where organised educational institutions were found. Only after the Buddhists and Jains came to Tamilnadu they began to build the Viharas and Jinalayas, and they grew as the centres of learning during the period of Pallavas. In Karnataka Agraharas, Bhramapuris, Temples and Ghatikastanas were the ancient centres of education".

The object of this study is to help to understand the Educational System prevailed in Tamilnadu and Karnataka in ancient times. Tolkappiam the earliest available book in Tamil, tells the boundary of Tamil speaking area as Venkatam in north and kumari in south. But the earliest available work in Kannada Kavirajamarga gives the boundary of Kannada language as the land between Godavari and Kauvery.

In all the circle of the earth
No fairer land you'll find,
Than that where rich sweet Kannada
Voices the peoples mind
'Twixt sacred rivers twain it lies
From famed Godavari,
To where the Pilgrim rests his eyes
on only Kauvery' (Kaviraja marga 1-36-39)

This work undoubtedly belongs to the age of Amoghavarsha Nrpathunga (814-879 A.D.), the Rashtrakoota emperor.[1] The historians, with the help of inscriptions come to the conclusion that the Kannada language goes back to the fourth century

B.C. The Kannada word 'isila' meaning 'fort' is found in the Bhramagiri inscription of Asoka, going back to third century B.C. Ptolemy who visited India around 150 A.D. mentions, Badami, Pattadkal, Banavasi and other cities of Karnataka. So this much can be said with confidence, that kannada language goes back to the fourth century B.C.[2]

As Sister languages since both the languages are having a long history, rich tradition and culture, we can compare the Educational systems existed during this period. The comparison is possible in the following divisions 1) Concept of Education 2) Teacher 3) Student 4) Institution 5) Subjects taught 6) Vernacular Education 7) Learned Assemblies 8) Women's Education.

Concept of Education

Even in the pre-Christian period "Karnataka was a famous part" is borne out by the fact that Thero Rakshita a Buddhist monk was deputed to Banavasi situated in North Kanara. It was in the third century B.C. shortly after the great council held in Pataliputra in the eighteenth year of Asoka.[3]

During his stay he naturally established Buddhist centres of religion and learning, when Huen-Tsiang visited Banavasi in the first half of the seventh century A.D. he found many Buddhist Viharas there. "In the capital close to royal palace was a large monastery with about 300 monks who were all men of distinction. The convent had a great Vihara more than a hundred feet in height"[4] So to some extent education in Karnataka must have been influenced by the Buddhistic mode and curriculam. This is not the only instance of people, bent on spreading their cult, coming down from the north Bhadrabahu, the contemporary of Chandragupta, came to Sravanabelagola accompanied by Chandragupta in B.C. 297; he was the sole attendant when the Chandragupta took the vow of renunciation of life.[5] History has it that a number of people came down from the north as a femine threatened then there. As most of them were of Jaina persuasion, Jaina institutions came to be established in Karnataka.

In those days religion was closely related to education, The Viharas of Buddhists and the Pallis of Jains were as

much educational sanctuaries as they were religious seats. Since the religion was dominating the whole scene, the concept of education centred around the self realisation. Dr. R.K. Mukharjee says:[6] Learning in India through the ages had been prized and pursued not for its own sake. If we may so put it, but for the sake, and as a part of religion. It was sought as the means of salvation or self-realisation, as the means to the highest and of life, viz. Mukti or emanicipation. What Dr. Mukherjee says regarding ancient Indian education holds good for Karnataka also.

In Tamilnadu also, according to Thiruvalluvar this idea is true. In Payiraviyal he says, "No fruit have men of all their studies lore, save they the 'purely wise one's feet adore" (2) Naladiar a Jaina literary work tells, there is no other medicine in the world to save oneself from ignorance. Naladiar says :

"Since in this world it yields fruit, since given it grows not less; since its makes men illustrious; since it perishes not as long as (it possessors) themselves exist; in any world we see not any medicine that, like learning, removes the delusions of sense" (Naladiar 132). In Nannul also the benefit of a book is described as getting emanicipation. But contrary to this in Sangam literature this type of objective is not found. Even though we are not getting solid ideas about education, the references we are getting are not revealing anything about the attainment of Mukti through education. In Purananuru, when talking about tha duties of people in society Poetess Ponmudiar says the duty of the father to make his son 'Sanron'. Pandian Arivudai Nambi also in his poem speaks about the greatness of learned men in the society. A learned man from a lower caste can be considered superior to the intellectual man from upper caste. Even there he does not make anything explicit or implicit about god. Since the idea of god did not deep rooted in that time we have to infer that the education was for its own sake. Though in the Payiraviyal Thiruvalluvar talks about emanicipation as the aim of education the following couplets should laso be taken into consideration before coming to any conclusion;

What gain, though lore refined of amplest reach he learn
His acts towards all mankind if coveteous desire to folly
them (175)

Even to those that hate make no return of iil;
So shalt thou wisdom's highest law, 'tis said fulfil (203)

The learning of the learned sage shines bright
To those whose faultness skill can value it aright (717)

To heart felt goodness men ignoble hardly may attain
Although abundant stores of goodly lore they gain (823)

From these we are able to infer that the Behavioural improvement of one self, Socialisation and attaining the communicative skill are the basic concepts of education prior to Thiruvalluvar. Since in his time the concept of God deep rooted he included it in the Payiraviyal. We can safely say that in Sangam period education was for its own sake and in the later years because of the impact of the religions in Tamilnadu also the concept of education changed.

Teacher

The conception of education moulds its external form. As the individual is the chief concern of this Education also became individual. So the teaching became an intimate relationship between a teacher and the taught.

Tolkappiam says learning is only for the first three Castes among the four viz. Bhramin, Kshatrya and Vaisya (V. 972) Elsewhere he explains Book is meant for Brahmins (V. 1570). In olden days learning and teaching was considered as the supreme duty of the Bhramins even though other people also had the previlege of this in the society. Those who possessed knowledge was considered as Bhramins and placed high above others. It is clearly given in the Purananuru as well as in Thirukkural.

In Purananuru Pandian Arivudai Nambi speaks about Education. In the whole of Sangam Literature this is the only poem which speaks about Education. In this poem the king poet clearly tells, if one is learned from a lower caste of the society

he will be considered and placed high in the society above a man who is not learned but from the high caste by birth. Thiruvalluvar also says this :

Lower are men unlearned, though noble
be their race,
Than low born men adorned with learning's
grace (409)

The same kind of idea existed in Karnataka is given by Jevoor [7] : "In ancient days, the members of all castes (except Sudras) were allowed to have the Upanayana Ceremony. 'Authentic ancient texts', says R. C. Majundar 'repeatedly declare that it is knowledge, not descent, that makes a Bhramana. Thus we learn that Janaka became a Bhramana through the teachings of Yajna Valkya'. Later the descent became to the criterion for judging a person's caste. As a consequence we find the growth of certain groups of people and their skill in a particular prefession". What Jevoor talks about Karnataka here well fits with the condition in Tamil Nadu also.

This may be due to the influence of Vedic Culture. This has been glorified in the Thaittirīyāranyaka. The second Prapāthaka (book) of this book starts with the description of the Yajñopavīta (the sacred thread worn by the 'twice born' which is necessary for the study of the vedas) :

Therefore one with a secred thread alone shall study shall minister at sacrifices, shall sacrifice, for the proper process of the sacrifice.[8]

Nannul after about 1500 years from the time of Tolkappiar speaks about a teacher.[9] Here he gives twelve good qualities which makes a teacher. In another verse he gives the bad qualities of the teacher also.[10] In both these verses the communicative skill of the teacher is considered the best quality of a teacher. Thiruvalluvar also insist this as a good quality with a learned man :

The learning of the learned sage shines bright
To those whose faultless skill can value it aright (717)

Because of the qualities of 'Kalaipayil telivu and Katturai Vanmai' teachers wanted to establish their superiority. Jaina poets refer to Samanta - bhandra to be living in AD 400. He was a scholar and moved from place to place in search of literary disputes in order to establish his superiority. How great he was is seen from the fact that he went to pataliputra (Patna) Malava (the malava plateau) Sindhu desha (Sind) Takka desha, Kanchipura, Vidisha, Karkataka desha etc., He announced himself by striking a drum in a Public square ; for that was the way of challenging in those days.[11]

There were no organised Institutions and the students had their education with the teachers. So how the teacher received the money which was needed for his life ? From the puram verse 'Uruporul Koduthum', we infer that the teachers were paid by the students. In Karnataka also the same system was followed. Students had to pay Guru Dhakshina. In addition to this from the inscriptions we knew that the public also used to contribute to the cause of education. The lands given to teacher was called as Bhattavritti[12] and to the students Cattavritti.[13]

To be a teacher is a very covetable position in those days, and to have that title was a reward in itself for engaging oneself in the profession of teaching. It is not for the sake of any pecuniary profit that people engaged themselves in the profession of teaching. There is the duty of the society to see that all boys are educated, and those who are learned must after themselves to discharge such a duty. Of course, a teacher was never left in want in those days. During the period under study, the Teachers were held in great respect. It was the Guru who was made to lay the foundation stone of the bhasthi, and that guru in turn laid it after chanting the name of his guru. This remember the custom among the warriors to repeat the Guru's name before taking up arms.[14]

Students

Nannul says that who all can become the students : His son, his teacher's son, king's son, those who gives more money nd those who worship the teacher. As mentioned elsewhere

since the education became individual, teachers taught to their sons first. From the Purananuru Poem of Pandian Arivudai Nambi[15], we infer that people used to give more money and used to help the teachers on all possible ways.

The scholars are of two types. One who resides with the teacher and the other visiting several places in quest of knowledge. The second type of scholars are mentioned in Tolkappiam. These people used to go for higher studies even after marriage. This period should not exceed three years. In Silappathikaram Kavunthi Adigal goes to Madurai seeking further knowledge from Madurai Saranas. In Sangam Literature Kurinjippatu was composed by Kapilar to teach the particular literary tradition to a North Indian King who was a visiting scholar.

Normally the Upanayana Ceremony was held at the age of eight[16] and the study continued upto twelve years. After completing the study a sacred bath was given to mark the completion of the Course. If there is no Upanayana and the subsequent study according to the prescription, a member of the three castes loses his social status. In the case of those who part in this obligatory duty of education at the prescribed age, it is definitely said :

One shall have no social intercourse with them (ASV. Grhya-Sntra 1-19-7). No member of the three castes shall have any dealings with such defaulters.

In Tamilnadu the marriage age was fixed as sixteen for boys. Before that the education must be over. For higher education after marriage the husband may have three years of separation. The basic education of 3R's was given only in the house. This we can infer from the lines of Kalitokai :

Perunteruviṟ Koṇṭaṭi ñayar Payiṟṟa
Tiruntupu Nī Kaṟṟa Soṟkalyām kēṭpa (Maruthakkali. 81)

From these things safely we can come to the conclusion that in the education was imparted to the students in three stages.

First the basic education was given to the children up to the age of 4 or 5 in the house by their parents. In the second level, education was given by teachers upto sixteen years of age. After that those who were interested might have gone for higher education away from their places in search of teachers of specialisation.

In old Tamil literature there is no mention about the initiation or completion ceremony of study. But in Periya puranam information about the initiation ceremony is given. In Kannappa Nayanar puranam Thinnanar was sent to the teacher for education and the initiation ceremony was done in a good time.

The relationship between the teacher and taught was as that of a son and father. Since there were no organised institution pupils used to stay with the teachers. They were taken care of by the teachers family members also. They used to help in the day to day activities of the teacher. This is evident from the line 'Urruei Utaviyum' of the Purananuru Poem. In Sirupanatruppatai, the lines,

Maṭa mānokkin vaṇutal viṛaliyar
Naṭai melintasaiya Nanmen Siṛaṭi
Kallā Iḷayar Mella Taivara (31-33)

Refer the relation of a student to the teacher. Here the phrase 'Kalla Vieiayar' refers only to the students undergoing training with the Viṛaliyar (dancers).

Centres of Education

Jainism came to Karnataka in the third century B. C. There were some munis who had amassed great learning. Some of them were not only proficient in the Jaina books but also in other arts, many languages and literatures. Like Buddhists, the jains too in the beginning established their centres on hills and propagated their religion, and later fulfilled the educational needs of the surrounding community. The caves in the hills gave

them shelter. The calm and serene environment was condusive for meditation[17] and educational activities. Thus the two places they selected in Karnataka are Koppal in northern Karnaraka and Shravanabelagola in Southern Karnataka. Though the earliest inscription available here belong to the 7th century A.D.[18] they must have been Jain centres long before that date. We come across the words Kupana and Kopana in other inscriptions. Nrpatunga in his Kavirajamarga mentions Kopana (Kavirajamarga 1.37). This place is called Adithirtha and Mahathirtha in the Shravanabelagola inscriptions. In an inscription we see that there were thousands of Jain temples in Kopana because Dandanayaka Ganga Raja had many Jaina pallis repaired and new ones built.[19] Ranna describing Athimabbe's charita says that it was great, beautiful and respectful like Kopana (Ajitapurana 12.6) with the help of all the evidences we can say that Koppal began as a religious and educational centre in 7th century A.D. gradually gaining importance as years rolled by and becoming an educational centre of great importance by the 12th C. A.D.

During Asoka's time Buddhist Viharas were founded which in course of time grew into centres of education.[20] In the beginning they were meant as residential places for the Buddhist Bikkus both men and women. These Bikkus carried on their religious studies in the Viharas. In the passage of time others were also admitted for the persuance of studies. According to Dr. Altekar, Organised educational Institutions were not in existence by the beginning of the nineth century A.D.[21] Kannada inscriptions also support this view.[22] The temple was the organised educational institution in Karnataka [23] Probably even the temple attained the status of an established institution only after the 8th or 9th century A. D.[24] HiuenTsiang in the 7th century A.D. found the students in the Guru's resident. In Sukumara story, the first story in vaddaradhane, we read Kashyapi sending her sons Agnibhuthi and Vayubhuthi to her brother Suryamitra's house for education. Suryamitra imparts them education without expecting any remuneration from them the two boys live collecting alms. After their education was over, when Suryamitra once went to Vayubhuthi's house the former found the later sitting on an elevated metal seat and doing pravachana to some Bhramins.[25]

This supports the opinion that prior to the 9th century A.D. education was being given in the Guru's house,

Whether there were organised Buddhists educational Centres nor ot till the beginning of the 9th century A.D., the wandering ascetics carried on the work of spreading learning. The Viharas also played no small part in doing so. The Buddhists from Ceylon spread Buddhism in and around Banavasi says an inscription of Nagarjuna konda of the 3rd century A.D, According to HiuenTsiang in the 7th century A.D. there were a hundred Sangharamas in Banavasi with 10,000 Bikkus, who were the followers of both Hinayana and the Mahayana cults.

The Kannada merchants of Banavasi gave munificient grants for the Buddhist caves at Karla and Kanneri.[27] From this we can infer that Banavasi was the Buddhist centre of western Karnataka. As such it must necessarily have been a seat of learning too. Hiuen Tsiang says that Koppal was a Buddhist centre during the time of his visit to India and he calls it Konkinapolo.[28] In an inscription of the sixth or seventh century A.D, One shriman Mahaprathanarupa — battaya had the Jayanthi prabha Buddhavihara built in Balligave and gave lands for the worship and for the maintenance of Yoginis and Sanyasis.[29]

In Tamilnadu, during the Sangam period no places where organised institutions were found. Only after the Buddhists and Jains came to Tamilnadu they began to build the Viharas and Jinalayas, and they grew as the centres of learning during the period of pallavas. When cholas took over Hinduism and Vedic culture dominated the scene and probably by this time only temples must had been grown as seats of learning.

In Karnataka Agraharas, Bhramapuris, Temples and Ghatikastanas were the ancient centres of education. In Tamilnadu also the same type of centres existed after the Sangam period. We hear of famous Ghatika at Kanchipuram. Besides this Bhramapuri the endownments Bhramadeyam given to Bhramins to learn and teach vedas and Arthasastras were also there. The name given by Jains to their places of residences 'Palli' is the word even today we are using in tamil for schools. Its only

with the Jain and Buddhists the centres with organised administration were found in Tamilnadu. During Pallava period Kanchipuram was considered as a seat of learning from where teachers had gone even to Nalanda University.

The Kūram inscriptions and Kasakudi copper plates mention how a number of bhramin familes were settled in some places like Kudanthai and Nagapattinam. Such Agrahar villages became great Centres of Sanskrit learning in course of time. Places started as Dharmasalas became seats of learning, teaching vedas. one of the famous mutts is the Kanchipuram mutt founded by Sankara. In the some model some of themutts flourished of Tamil studies and the places are Dharamapuram, Thiruvavaduthurai and Thirupanandal.[30] In addition to these, temples also became colleges and Ennyiram temple college, Thirumukkudal and Thiruvorriyur colleges are some of the well known colleges.[31]

In these centres also students were staying with their teachers. The constant and intimate association between teacher and taught is vital to education as conceived in this system, the pupil is to imbibe the inward method of the teacher the secrets of his efficiency, the spirit of his life and work, and these things are too subtle to be taught.

There are few other fundamental pedagogic principles involved in this educational condition of intimate relationship between the teacher and his pupil. The Guru takes the place of what Freud defines as super-Ego of the individual pupil, is the embodiment of the ideals and tradition in which he is brought up.[32]

Apart from the special educative value of the teachers home as the school, there is the factor of its environment or setting as an integral part of the scheme. Environment plays a crucial role in the development of intelligence. Dasgupta says[33] sharp intelligence can be fully developed by associating with the wise and it may remain undeveloped in the association of persons of average or low intelligence". The same idea is expressed in Naladiar:

Though themselves unlearned, if man live in
association with the learned they advance
daily in excellent knowledge. The new vessel,
by contact with the padri flower of
old renown and lustrous hue, imparts
fragrance to the cold water it contains. (139)

The teaching learning methods are given in Nannul verses (Payiram Numbers 36 and 40). The teacher must plan the lesson what he is going to teach. This is the first condition The second condition is regarding his character. He should not get angry, should not be in a hurry, should have affection towards students and should have a smiling face. The third condition is that he must know the Psychology of the student to whom he is teaching. He must know the learning capacity of the pupil and his mental hygiene and the teaching method should be planned according to the need. These are all the modern teaching methods we are adopting now. The learning method of a student is also given. Students must be in time; worship the teacher; knowing the ideas of the teacher; sitting after he has asked; telling the previous day's lesson when asked; with good attitude of learning all what he hears from the teacher.

In Karnataka Antevuasin is a pupil who dwells in the house of his teacher. The preceptor must be reverenced by his pupil. Gurunam rapachit : Teachers are to be served by their pupils in five ways. 'by rising' (from their seat in salutation) by waiting upon them (Upatthanena) by eagerness to learn (sussusaya), by personal service (paricharivaya) and by attention when receiving their teaching (sakkachaharm sippapatigga hanena)[34] (Kalsi inscription) This is mostly the same as the rules laid down in Nannul for learning.

In those days, since there were no printed books learning was only by rote. Learning by rote was very common in ancient days in Karnataka. The pupil always put questions to the teacher on doubtful points and got them solved. A predecessor of Nripatunga by name Vimala wrote a work named Prashnottara māla in Sanskrit. That throws light to

some extent on how education was carried on by the question and answer method. After making sure that the pupil had made by heart and understood the piece that was given the previous day, the teacher taught new portions. Hence there was no necessity of examinations.[36]

In the Rigveda there is a reference for this method of learning by rote. Frogs are compared to the student repeating the words of the teacher. The same idea is found in Kambaramayanam also.

Kalviyiṟṟigaḷ Kanakkāyar Kambalai
Palviḍac - Ciṟarenep Pakarva pallari
Cellidattalatonrutaittal ceykalā
Nallaṟi Valar in avinda nāvelām
(Kiskindakandam, Kārkata patalam 115)

Subjects Taught :

In the Sangam period though utmost impartance was given to learning language and literature it was not religious as mentioned elsewhere. Learning language, composing poems and getting prizes from kings were considered as best things for poets. Though this one is obligatory other special education was also imparted to students. Though no direct reference of teaching these are not found in literature we find mention of these subjects.

Tholkappiam has reference about biological sciences, botany, agricultural sciences, economics, medical sciences, science of architecture, science of painting, science of music and science of dancing. Purananuru gives a picture about the knowledge of geography among the Tamils.[37] In Purananuru mention mention about astronomists are found. The concept of the gravitational power of the sun, the atmosphere round the earth, how the sun attracts the earth and therefore the earth revolves around the sun are given.[38] In Manimekalai both religious scholars and mathematicians are mentioned as specialists.[39] In another place the subjects learnt by Madhavi is given. She learnt Music, Musical instruments, cooking, painting, Mathematics (astrology)

etc.[40] We are also getting some names of the Sangam poets as Kaniyan Poonkunranar, Maruthuvan Damodaranar, Valluvan Perunchatan, Madurai Asiriyar Kodam korranar, Madurai Koothanar. There are fourty seven Sangam poets named after their profession.[41] This shows that different types of professions and industry were there during Sangam period which could not have been flourished without proper .education about these. In Perunkathai Uthayana Kumaran is described as a man with limitless education and the education in which he was considered specialist is given as below:

Poruḷ puri Noolum
Alagai sanra ulaga puraṇamum
Palavagai marapiṟ pasaṉ diyargal
salasala miḻaṟṟum samaya vikaṟapamum
Isaiyotu sivaṉiya yāḻi moolum
Natakap poruḷum utkoṉ ṭaṭakki
Uḷappāṭuṭamai utayaṇa nuraitalum (I.32: 1-7)

In Kannappa Nayanar Puranam when Thinnanar become Kannappar after leaving the worldly affections a simile is given. When subject is given as simile certainly this must have been taught.

As already mentioned, in Karnataka, education was mainly religious, but secular education was also imparted in addition, Archery, Art of warfare, hunting, dancing, music, painting, sculpture, medicine, astrology, gymnastics were taught. Skill in the various occupations were handed down from the father to the son.

The Buddhist corriculum included Jatakas, Vinayashastras, Patimoksha and other shastras. Jatakas often say that in Takshashila the three vedas and eighteen sippas (arts) were taught. The later included medicine, surgeory, archery and allied military arts, astronomy, astrology, accountancy, and magic.[42] The knowledge of both Sanskrit and Pali was essential as their scriptures were written in both languages.

Any way more importance was given only to the study of vedas.[43] Though Kshatryas and Vaisyas joined in this they did not show much interest to this.[44] In vaddaradhene the subjects taught to Agnibuthi and Vayubhuthi (Sukumara samy story) are given as, four Vedas, eighteen Angas, Dharma sastras,, Mimamsa vyakaranas, Alamkaras, Nihantus, Epics, Dramas, Chanakya samudrikam, salihotram, Balakappiyam (Elephant medicine) etc.,

In Kahutsavarman's Talagunta inscription information regarding convocation (Samavarthana) is given.[45]

The teacher pupil ratio was fairly good at that time. For every teacher only 20 to 25 students were there. In shimoga Talakunta schools, six teachers were available for six students.[46]

Vernacular Education

During Sangam period though mention was there in Tolkappiam about Sanskrit, Tamil and Tamil alone was patronised by the kings. In arts and science Tamil was the medium of instruction. But after 300 AD after the advent of Pallavas and Kalabras Sanskrit and Pali languages were patronised by the kings.. Jains and Buddhists were for Sanskrit and Pali slowly letting down Tamil. After 300 AD both in Karnataka and Tamil nadu both Kannada and Tamil were let down and Sanskrit and Pali were patronised by the kings.[47]

The history of Kannada literature show that the Kannada language has assimilated the best that was known and thought in the Sanskrit language through the centuries. When the Sanskrit language occupied a high position and its scholars were highly esteemed, no wonder the people of Karnataka began to have their models from the Sanskrit literature and its scholars.

Learned Assemblies

There are references in Tamil Literature about the 'Sangam' which would correspond to our modern academies. This Sangam

existed in the capital of Pandian Kingdom. Still controversy is there regarding the existence and number of the Sangam. In the early literature this academy is referred to as Kudal meeting place of poets or avai. The word Sangam most probably was introduced by the Jain scholar Vajranandi who founded a 'Dramila Sangha' in 470 A. D. [48].

To this academy poets of excellence were invited by kings to set standards for Tamil and to give approval to new works after examining them. From the informations available regarding this academy we can infer that this academy was the highest seat of learning in Tamil area which functioned corresponding to our present day Universities.

We also hear about the literary debates, scholars challenging other learned people by raising the flags and shouting 'Navalo Naval' Pattinappalai and Manimekalai give details about these debates.[49]

In Karnataka also, the art of logical refutation of an opponents position was regarded of great importance. The scholars who distinguished themselves in the discussion were known as Ghatika Sahasas as is revealed in the Huligere plates of Sivamara in which a reference is made to a Ghatika sahesa Madhava Sarma.[50] These Ghatikas as can be gauged from references to the participation of Samantabandra, Pujyapada and others in the disputations held in the Ghatika at Kanchi were interprovincial in character like Tamil Sangam and attracted students from all parts of the country. The reputation that followed a successful disputant in these assemblies was so high that it was an inducement to all scholars to preserve their studies especially in the obstruse and subtle doctrines of religion standard of intellectual attainment, with the object of winning victory in the assembly of learned men. This custom, seems to have reacted powerfully on the educational atmosphere of the country.

Women's Education

In Sangam literature many poems are attributed to women Scholars. We hear as many as thirty lady poets[52]. Avvaiyar,

Adimandiyar, Kakkai Padiniyar, Nachellayar, Okkur Masathiyar, Perunkopendu are some of the names of poetesses belonged to that period. In Naladiar, the author says that the physical beauty of a girl do not makes her beautiful but learning would make her virtuous and would give her the real beauty[53].

From this we can clearly tell that women had the privilege of education equal to men. Isai Tamil was considered an important asset to women.

The long tradition of Avvai indicates that women's education continued to flourish till the medieval times. Examples of Karaikkal ammaiar the learned saivite scholar and Andal the famous vaishnavite scholar prove that learning traditons of lady scholars was continuous. But by the time of Sirupanchamoolam We are able to see the deterioration in the position of women setting in Sirupanchamoolam (53). One of the important reasons for this deterioration might be influence of Jainism and Buddhism which believed that woman was a source of distraction from picty.[54]

According to Panditha Kshamabai Rao before the end of third cenrury B. C. women were completely deprived of the right of studying the vedas or of performing the rituals of yaga. Since Kannadigas found the life in vedic culture women in Karnataka were also deprived of the educational facilities.[55]

Conclusion

Summarizing the main features of the comparison of the Educational systems of both Tamilnadu and Karnataka we can arrive at the following conclusions.

1. During the time of Tholkappiam and Sangam Literature, before the formation of a separate language as Kannada an educational system purely of Tamils existed, The objective of education at that time was only gaining the knowledge.

2. After the arrival of Buddhists, Jains and Vedic culture education was considered as a training of the mind which would lead to attainment of Mukti or emanicipation.

3. From 300 AD the influence of religions from north was more in the south as a whole. So the same type of educaticn prevailed.

4. Importance was given only to Sanskrit and Pali and the study of vedas by that way leaving the study of local languages. When compared with Kannada Tamil had more patronage from people. Even mutts were established for the preservation and propagation of Tamil language, literature culture.

5. Women in Karnataka were not getting the privilege more in the field of education but in Tamilnadu from Sangam period upto the period of Sirupanchamoolam we see a contineous flourishment in women's education.

Foot Notes :

1. L.S. Seshagiri Rao, A History of Kannada Literature, (Bangalore. 1983), P. 2
2. Idib P. 2
3. Indian Antiquary Vol. III P. 273
4. Buddhist Records of Western World, II, PP. 253-255
5. E. P. Rice, History of Karnataka Literature P. 18
6. R. K. Mukherjee, Ancient Indian Education, (Patna 1960), P. XXI
7. S. V. Jevoor, History of Education in Karnataka, (Dharwar-1952), P. 38
8. C. Kunhan Raja, some aspects of Education in ancient India, (Madras. 1950), P. 31
9. நன்னூல். 26

குலனருள் தெய்வங் கொள்கை மேன்மை
கலைபயில் தெளிவு கட்டுரை வன்மை
நிலமலை நிறைகோல் மலர்நிகர் மாட்சியும்
உலகிய லறிவோ டுயர்குணம் இணையவும்
அமைபவன் நூலுரை ஆசிரி யன்னே.

10. நன்னூல் 31.

மொழிகுணம் இன்மையும் இழிகுண இயல்பும்
அழுக்கா றவாவஞ்சம் அச்சம் ஆடலும்
கழற்குட மடற்பனை பருத்திக் குண்டிகை
முடத்தெங் கொப்பென முரண்கொள் சிந்தையும்
உடையோர் இலரா சிரியரா குதலே.

11. S. V. Jevoor, History of Education in Karnataka, P. 7
12. E. I. XIII. P. 129, 929 AD.
13. BKI. I. P. 171, 1121 AD.
14. Pampabharatha V. 10.64
15. Puram. 183 : 1-2
உற்றுழி உதவியும் உறுபொருள் கொடுத்தும்
பிற்றை நிலை முனியாது கற்றல் நன்றே.
16. Thaithriyaranyaka - C. Kunhan Raja, Some aspects of Education in ancient India, P. 44.
17. M. Chidanandamurthy, Cultural study of the Kannada Inscription. P. 77
18. E. C. II. I. C. 600 AD ; J. I. S. I. P. 374
19. EC II. 127, 1115 AD
20. Altekar, Education in ancient India, P. 251.
21. Ibid. P. 79
22. M. Chidanandamurthy, Cultural study of the Kannada Inscriptions, P. 207
23. Ibid.
24. Ibid.
25. Vaddaradhane P. 3-7
26. M. H. Krishna, The History of Kannada Nad III, P. 4
27. Karmarkar, the Cultural History of Karnataka, P. 175
28. J. I. S. I. P. 201
29. EC VII S. K. 170, 1065 AD
30. Mrs. J.K. Pillai, Educational System of the ancient Tamils, (Madras. 1972), P. 31

31. Ibid. PP. 66-67
32. R. K. Mukerjee, Ancient Indian Education, P. XXVIII
33. D. C. Dasgupta, 'Educational Psychology in ancient India' B. Kuppusamy (Ed.) Advanced Educational Psychology, (Delhi. 1964), P. 31
34. R. K. Mukerjee, Asoka, (1927), P. 155
35. S. V. Jevoor, History of Education in Karnataka, PP. 41-42
36. C. Kunhan Raja, Some aspects of Education in ancient India, P. 12
37. Mrs. J. K. Pillai, Educational System of the ancient Tamils, P. 35.
38. Puram. 30.

    செஞ்ஞா யிற்றுச் செலவும் அஞ்ஞாயிற்றுப்
    பரிப்பும் பரிப்புச் சூழ்ந்தமண் டிலமும்
    வளிதிரிதரு திசையும்
    வறிது நிலைஇய காயமு மென்றிவை
    சென்றளந் தறிந்தோர் போல வென்றும்
    இனைத்தென் போரும் உளரே

39. Manimekalai 1 : 11-14

    மெய்த்திறம் வழக்கு நன்பொருள் வீடெனும்
    இத்திறந் தத்தம் இயல்பினில் காட்டும்
    சமயக் கணக்கருந் தந்துறை போகிய
    அமயக் கணக்கரும்

40. Manimekalai 2 : 18-32

    வேத்தியல் பொதுவியல் என்றிரு திறத்துக்
    கூத்தும் பாட்டுந் தூக்குந் துணியும்
    பண்ணியாழ்க் கரணமும் பாடைப் பாடலும்
    தண்ணுமைக் கருவியுந் தாழ்தீங் குழலும்
    கந்துகக் கருத்தும் மடைநூற் செய்தியும்
    சுந்தரச் சுண்ணமும் தூ நீ ராடலும்
    பாயற் பள்ளியும் பருவத் தொழுக்கமும்
    காயக் கரணமுங் கண்ணிய துணர்தலும்
    கட்டுரை வகையும் கரந்துறை கணக்கும்
    வட்டிகைச் செய்தியும் மலராய்ந்து தொடுத்தலும்
    கோலங் கோடலும் கோவையின் கோப்பும்

காலக் கணிதமும் கலைகளின் துணிவும்
நாடக மகளிர்க்கு நன்கனம் வகுத்த
ஓவியச் செந்நூல் உரைநூற் கிடக்கையும்
கற்றுத் துறை போகிய பொற்றொடி நங்கை.

41. N. Sanjeevi, Sanga Ilakkia Araichi Attavanaikal, P. 30
42. Altekar, Education in ancient India, P. 141
43. EI. XIII, P. 41, 1112 AD
44. EC. III, S. 49, 1120 AD
45. EC VII S. K. 176, 450 AD
46. EC VII SK. 185, 1158 AD
47, Mrs. J. K. Pillai, Educational system of the ancient Tamils, P. 30. S. V. Jevoor, History of Education in Karnataka P. 20
48. Mrs. J. K. Pillai, Educational System of the ancient Tamils. P. 38
49 Pattinappalai 169-171

பல்கேள்வித் துறைபோகிய
தொல்ஆணை நல்ஆசிரியர்
உறழ்குறித்து எடுத்த உருகெழு கொடியும்

Manimekalai 1 : 60-61

ஒட்டிய சமயத்து உறுபொருள் வாதிகள்
பட்டி மண்டபத்துப் பாங்கறிந்து ஏறுமின்

50. MAR, 1910, Para 115
51. M.V. Krishna Rao, The Gangas of Talkad, (1936), P, 258
52. N. Sanjeevi, Sanga Ilakkia Araichi Altavanaigal, P. 32
53. Naladiar

குஞ்சி யழகும் கொடுந்தானை கோட்டழகும்
மஞ்ச ளழகும் அழகல்ல - நெஞ்சத்து
நல்லம் யாமெனும் நடுவு நிலைமையால்
கல்வி யழகே அழகு.

54. Mrs. J. K. Pillai Educational System of the ancient Tamils, P. 49
55. S. V, Jevoor, History of Education in Karnataka, P. 48

The Role of Hindu Mutts as Centres of Learning for the Tamils

A VELUSWAMY SUTHANTHIRAN

"Both Saiva and Vaishnavite maṭhas were founded by the followers of the respective Creeds throughout South India, especially in Tamil Nadu. They played as centres of learning for the Tamils."

In ancient and medival South India, education was promoted mainly by institutions like the Ghaṭikas, Maṭha, Agrahara, Temple and Sālai.[1] These institutions served as great residential colleges and promoted facilities for the study of religious literature and secular subjects. The temple stood as symbolic expression of the religious impulse of the people, and the maṭha was an institution that stood for the propogation of certain schools of thought and the importing of religious education in the particular way that was agreeable to the founders.

The maṭhas of South India, like the monastiries of medieval Europe were very important religious institutions that received the care of the state and were maintained by the wealth, they possessed. It is said that the maṭha was a place of meditation and study of subject relating to religion, higher truths and matters relating to the spirits. It has been explained also as a hut or small building inhabited by an ascetic or devotee, a monastery, a college. Every one of the maṭhas was presided over by a sanyāsin who was invariably a cultural ecelesiastic whose duty was not only the management and administration of the maṭha but also the encouragement of religious and philosophic learning. There were generally many disciples in these maṭhas, who, if they were in Brahmanical institutions, studied the Vedas and the other allied Sanskrit literature, and if they were in non-Brahmanical institutions, they studied the

Vernacular literature. Thus maṭhas were primarily educational institutions.[2] Moraes says "the maṭhas was a typical Indian Monastery with monks, ascetics, and students living with in it's precincts. These monasteries were invariably attached to some local temple or had some temples attached to them.[3] An epigraph dated in the year A.D. 1162 says that Maṭha is the place where food was supplied to the poor, the lame, the blind, the deaf, the story tellers, singers, drummers, flute-players, dancers, eulogists, the naked, the wounded, beggers from all countries and offered treatment to the destitutes and sick persons. It is also a place of security.[4] Tamil Lexicon says that the maṭha is the residential place of the saints.[5] Danōji Dikshiter says that the maṭha is the residential place for the students.[6] Tamil Encyclopaedia says that it is the residential place of the groups of saints.[7] The words "Guhai", "Adeenam',, refer to the maṭha. The Tamil Lexicon refers the word 'Adeenam' as Saiva Mutt.[8]

Both Saiva and Vaishnavite maṭhas were founded by the followers of the respectives creeds throughout South India, especially in Tamil Nadu. They played as centres of learning for the Tamils. The process of establishing maṭhas gained momentum only during the tenth century and afterwards it became a common feature to attach maṭhas to temples. It may even be said that almost every temple had one or more maṭhas functioning in close proximity to it:[9] Besides Saiva maṭhas belonging to various schools of thought, these were numerous and widespread Vaishnava maṭhas in Tamil Nadu, which attended to the feeding of the Srivaishnavas on a large scale and also discharged other secular functions. But unfortunately for the history of the Sreevaishnava Maṭhas, which existed or were established during the early period, the information supplied by the epigraphical records is very little and much can not be said with certainty about them. But anyhow, some maṭhas played a notable part in the spread of Tamil literature, like the Saivite maṭhas.

In the Pallava period, the earliest reference to a maṭha in Tamil Nadu, is found in an inscription of the Pallava King Dantivarman I.[10] This maṭha was attached to the Siva temple. Tiruneṟṟali at Kāñchi. Minakshi is of the openion that it was this maṭha that inspired Appar to glorify Kāñchi.[11] The encouragement, given by this maṭha to the Saint Appar itself shows the service of this maṭha as centre of learning. A Muttaraiyar Chieftain made a money grant to it.[12] In the days of Kampavarman, a learned person was the head of the maṭha at Oṟṟiyūr. This maṭha also accommodated and patronised Appar and Sambandar.[13] Eventhough, music and dance played a notable part in the Pallava Period, to maṭhas had encouraged them.

Under the Cholos of the line of Vijayalaya may be said to commence the Silver Age of South Indian Saivism and Vaishnavism The Sacred hymns of the Nāyanmars and the āḻwārs were arranged in canonical form sometime in the eleventh century.[14] Kings, Queens, Chieftains and individuals made liberal grants for the development of Mutts. Land given to the musician was termed as "Isaikkāṇi", and the land to the dancing dancer was "Nattu Vakkāṉi". The other terms, which denote the educational grants made to certain teachers either to run vedic schools or pāṭhasālās or to import instructions in their own houses are variously known as bhaṭṭavṛtti, akkarikavṛtti,[15] akkarikavṛtti,[16] Kiḍaippuram[17] and Vyākhyavṛtti.[18] Likewise, the land given to the maṭha is called as "Madaippuram". The lands given to the maṭhas were freed from taxation. Just as temples and festivals grew and developed in the days of the Cholas, maṭhas also increased in number. Among them some had the name of the God; Some had the names of the Cōḻa Kings and their feudatories; many were named after the Nāyanmārs. Some others have various kinds of names.[19] Both individual Mutts and mutts attached with the temples made their appearance in large number during this period. These maṭhas encouraged the learning of Tiruppadiyams. Some maṭhas encouraged the scholars to write literary works. The maṭhas were each presided over by a Sanyāsin, or a paṇḍita, who was invariably a cultural ecclesiastic whose duty was not only the management

and administration of the maṭha but also encouragement of learning.[20] There are numerous inscriptions which highly speak of the scholarship of these lands in various arts and sciences.

Tiruppadiyams: Mutts which encouraged the recitation of Tiruppadiyams are large number during this period. Due to this, many scholars were produced by the mutts who were capable of elucidating the significance of Tiruppadiyams among the people. In some of the maṭhas, provision was made for reciting the Tirumurai[21] and Tirujnānam[22] and reading the Agamas.[23] We are not in a position to say what work is alluded to the absence of details of the author and date of composition. But it was a work of considerable sancity, composed probably by one of the canonical Saiva Saints.[24] The mutts which were responsible for the spread of learning are given below.

Tiruvorriyur : A few inscriptions of Chola Kings from this place mention a maṭha, in the temple of Ādhipurisvara, which was presided over by a succession of Caturanana panditas:[25] In this maṭha was expounded the doctrine of Sōma-Siddhanta. The purāṇa of Āludaiya Nambi was also expounded. The other maṭhas of this place were Rājēndra Chōḻan maṭha,[26] Nandihesvara maṭha,[27] Tirujñana Sambandar maṭha,[25] Kulōttuṅga Chōḻan matha[19] and Kilai maṭha.[30]

Chidambaram

Tirupparkadal Matha: This is a Vira - Saiva mutt and it is said that the manuscript of Tiruvācakam was actually written.

Ambalattadi Matha:- It seems that it is here the original manuscript of Tiruvācakam was being kept in a silver casket and offered worship.[31]

Tiruvaduturai Matha:- This maṭha is attached to the temple of Tiruvaduturaiyudaiyār at Tiruvaduturai.[32] This is the first maṭha, which mentions the teaching of Medical science. It deals with indigenous medicine, and also Vyākaraṇa, Rūpāvatara. This shows the medical knowledge attained by the Tamils in the twelfth century A.D.

Thirukkurukkai:- An epigraph mentions the existance of one maṭha called Thirunāvukkarasar Thirukkuhai. This matha did the service of reciting Tiruttāndakam. It also helped Māhēsvaras and Āpūrvins,[33] in their service of reciting Dēvārams.

Thirupparrurai:- This place is five miles to the cast of Tiruvānaikka. The maṭhas present are Thirunavukkarasar Thirumaṭam, Āṇḍār Embirāṇār maṭam, Thirujnāna Sambandar maḍam, Nāṟpatteṇṇāyiravar maṭam and Kākkum Nāyakar maṭam. These maṭhas played an important role in reciting Thirumuṟais.

Vadatirumullaivayil:- This is thirteen miles to the west of Madras. During the period of the king kulōttuṅga III, a mutt named "Thirubhuvanaviran Maṭam, was construted. The persons reciting Tēvārams were provided with lands for their survival.[34]

Thirugnana Sambandar Matha at Tirruccattimurram:- Lands are given to this maṭha for it's maintenance. The persons attached to this maṭha, one well trained in singing Tēvāram with musical tones.

Maligai Matam at Tiruuvidaimarudur:- A certain pontiff of this maṭha has been offered invocation in the prefaces of the later works namely the Vēdāraṇya purāṇa and the Tirukkāṇappēr purāṇa.[35] It is clear from these invocations that the ācāryas of the Māḷigaimaḍam were well versed in the Saiva scriptures.[36]

Mathas at Tirutturaiyur and Tiruviyalur:- Aruṇandi Sivacāryar, the father of Meykaṇdar, was in the Tiruttuṟaiyūr maṭha, Meykaṇḍār was also encouraged by the above maṭha. His work called ·Sivajanabōdam' is the noteworthy contribution of Tamil literature. The disciples of Meykaṇḍār were forty nine in number. Aruṇandi Sivācārya was the first and foremost. He was the author of Siva - Sittiyār and Irupa - Irupadhu, both Saiva Siddhanta sāstras. Another Siddhanta work called ·Uṇmai-Vilakkam' was the contribution of one Manavāsagam Kaḍandār. Another disciple called Umāpathi Sivācārya contributed the Saiva Siddhanta work called 'Sivaprakāsam'. He established a sepe-

rate maṭha at Koṛṛavankuḍi and gave Siva Siddhanta lessons. From the above points, it seems that from the time of Mey-kaṇāḍar, his disciples established the Saiva religion.

The other maṭhas, which encouraged Tamil learning are Isānya Maṭha at Tiruvannamalai of North Arcot, Tiruttoṇḍatto-haiyān Tirumaṭam at Tiruvisayamangai of Tanjore district, Tāmō-dara Āndār Kaṭiyāparaṇar maṭha at Tiruppurambiyam of Tanjore district, Naminanthiyatigal maṭha at Tirukkalukkuṉṟam of Chin-gleput district, Sankaracharyar maṭha at Kāñchipuram of Chin-gleput district, Chidambaram Swamigal maṭha at Tirupporūr of the same district, Tiruvālangādu Immudi Ahorastharma Sivāchāri-yār Āyira vaisya maṭha at Nerunchippēttai of Coimbatore district and Cowmara maṭha at Siravaṇapuram of the above district,

Contribution of some Vira Saivite mathas

a. Saranga devar matha at kumbakonam

The note worthy contribution of this matha was the publication of the work called "Vīrasingātanapurāṇam".

b. Gurunamachivayar matha at Tiruvannamalai

The two great sholars of this maṭha namely Gurunamachivayar and Guhai namachivāyar had contributed Prabhandhas to Tamil literature.

c. Gnaniyar matha at Thiruppathirippuliyur

A Saiva pātsālā is being run by this maṭha. The students are given free education. Food and clothes are supplied freely to the students. They are taught Thirumuṟais and other Saivite works.

d. Tondainattu matha at Madras

Through this maṭha, scholars could produce some important works. They are the Pasavapurāṇam and Siddhanta Sihamaṇi of Pasavagampaniyār, Tiruttaṇigai Saṇṇadhimuṟai of Kanthappaiyar and Māṇavar Ilakkaṇam by Malavai Mahalingaiya.

e. Santalinga matha at Perur

Sāntalingar was the student of the great Tamil scholar Sivappirakāsar. The worthy work of Sāntaliṅgar is "Kolai maṟuttal", A college is run by this maṭha and it is acted as a centre of Tamil learning.

f. Sivanana Palaiyar matha at Pommaipaliyam

A college is being run by this maṭha. This maṭha encouraged the great scholar Sivappirakāsar. His contributions are Nenjuviṭu Tuthu, Tālāṭṭu, Sivapprakasa visāgam, Tarkkaparipāsai, Satamani mālai and Nāṉmaṇimālai. The works like Tiruveṅgaikkōvai, Kalambakam, Ula, Alankāram are related to the God at Veṅganūr. The works relating to justice (Neethi Nūlkaḷ) are Naṉṉeri, Vēdānta Cūṭamaṇi, Pirabulinga Leelai, Siddhanta Sikhamani, Nirañjana mālai, Kaittalamalai, Abhisēkha malai, Istalinga Kurungaḷi Neṭil viruttam, Istalinga Peruṅgali Neṭil viruttam, Periyanāyaki Kuttala kalittuṟai, Pikshāṭaṇa Navamaṇi malai and Periyanāyaki viruttam.

g. Sivagnana palaiyar matha at Mayilam

The scholars patronised by this maṭha, contributed much to the Saivite literature. The works Pāsavathaipparaṇi and Mayilam Murugan Piḷḷaittamil are written by Vaidhyanātha Dēsikar. Thirumuthukuṉṟam Tyāgarājakkavi had contributed the work called Mayilam sthala purāṇam. Apart from the above contributions, the maṭha encouraged Aruṇagirināthar to write Tiruppugaḷ. A Tamil college, one high school and one higher secondary school is run by the maṭha. The students are given books freely. Feeding is free. The students are taught the Tamil literary works. Saiva Siddhanta Mahājam conducted it's functions two times with the help of this maṭha. At that time, many scholars were rewarded with gifts and titles.

Guhais A kind of Maṭhas called Guhais, made their appearance during the period of the king Kulōttuṅga III. These guhais also fostered the growth of Tamil literature. These guhais gave encouragement for the recitation of Tirumurais. The important Guhais were Tirutturaippūṇḍi Guhai,[37] Tirunanasambandaṉ Guhai[38], Tirumuṟait-tē-vārāccelvaṉ Guhai at Sikāḷi[39], Tiruttoṇḍatto-

gaiyāṉ Guhai at Tiruviḍaivāi[40], Tiruppugalūr Guhai[41], Polisattaḻagiyaṉ Guhai at Tirumākālam[42], Ālālasundaraṉ Guhai at Tirumananjeri[43], Guhai at Chidambaram[44] and Tirunāna sambandan Guhai at Caturvēdimaṅgalam[45] (Ramanātha puram district). One Mudaliyār Tiruvaiyāṟuḍaiyār lived in the Sirkāḻi Guhai and whose disciples were experts in reciting the Tirumuṟais in the guhai in the Tiruviḍavāy. It stands as the points to say that Tamil music was patronised by the Guhais.

Pandya Kings encouraged the mutts which did religious and literary service to the Tamils. During the period, of the Pandya King Nedumāṟan, Sambandar Visited Madurai. The Queen and the minister Kulacciraiyār made all arrangements for the study of Sambandar. In memory of his stay, there formed 'Gnāna Sambandan maṭha' and this maṭha is still doing praiseworthy work by serving as a centre of learning for Tamils Colleges, Schools are being run by this maṭha. They are conducting conferences and thereby publishing number of Tamil works. The maṭha is honouring the Tamil scholars by giving financial help and also by awarding titles. The āchāryas of the Gōḻaki maṭha, had established maṭhas in different places in the southern country in the thirteenth century A.D, with the help of the Pandya Kings. The āchāryas of these maṭhas belonged to the several santānas. An āchārya called Pugalip-perumāḻ of the Santāna read the work called "Tirunānam" in the temple.[46] The Gōḻaki-maṭha was present at Āṟṟūr in the Tiruccenduɹ taluk in A. D. 1250. Eleven disciples from many South Indian maṭhas had been appointed in the temple of that place to recite Tirunānam. Māṟavarman Sundara Pāndya II granted lands to a maṭha on Pirāṉmalai in the Pandya country.[47] This maṭha played an important role by providing facilities for reciting the Tirumuṟais. Recitation of Tirugnanam was also done, An epigraph of Jaṭāvarman Kulasēkhara (accession) dated in his third year[48] records the royal gifts of the villages of Tiyarnallamangalam as guru-dakshina to a certain Mudaliyar residing in the maṭha called Ceraman Perumal at Iraniyur. The gift should have been given for his religious and literary activities. During the period of the King Māṟavarman (about A. D. 1236), a maṭha called Ācāramalagiyan - tirumaḍam at Tiruvarur. It helped the inmates

of the maṭha to recite Tirumuṛais with music. Provision was also made for the recitation of the Tirujñānam in the temple at Tinneveli by as many as eleven tapasvins who were drawn from various maṭhas in South India.[49]

Vijayanagar and Nayak periods : There were also a few Saiva maṭhas during the Vijayanagar period. One of them was the Dharmapuram maṭha. It appears to have been founded between A.D. 1561 and 1566. According to Purnalingam Pillai, the founder of this maṭha was on Kumara Guruparar, a contemporary of Tirumalai Nayaks of Madurai.[50] The heads of this maṭha were great expounders of Siddhānta Sāstras and under the first few of them were written great works of Saivasiddhānta philosophy like Jnānavarṇā viḷakka uṛai. Mukktinis'caya Pērurai and Paṇḍāra sāstras. Another one was the Tiruvāvaḍuturai maṭha. Another maṭha that deserves mention is the Tiruppanandāl maṭha.

The above three maṭhas are doing tremendous service for the growth of Tamil literature. They are working as centres of learning in various aspects. The services rendered by the above three maṭhas (Ādeenams) are given below.

Dharmapuram Adeenam : The Publications of the Ādeenam are given below. They cover various fields of studies.[51]

Literary works : The literary works published are seventy-three in number. The important works are Kirtti Tiruvahavaḷ. Tirukkaḷumala Mummaṇikkōvai, Ponvaṇṇattāntāti, Kandapurānat tirattu, etc.,

Saiva Siddhanta Works : They are forty three in total. The important works are Sivagnana bodham with English translation, Sivapprakāsam with English translation, Uṇmai Vilakkam Satamaṇikkōvai etc.,

Pilgrimmage works : (Tala Yāttirai Nūlgal). The wokrs published by the maṭha, relating to Pilgrimmage are eight in number. They are Kāsi Yāttirai, Rāmēsvara Yattirai, Tirkkētāra Yāttirai, NēpāḷaYāttirai, Amaranātham, Tirukkayilāya Yāttirai, Tirukkayilai Yāttirai and Tuvāsa Jodhirliṅgam.

Books relating to the history of sthalas and Devarappatikas

The workers published by the maṭha, relating to the above subject are four hundred and fourty nine in total, The important are Tiruvvaiyaṟṟut talamahimaicchurukkam, Sīrkāḷittala varalaru, Tirvppanantāl talavaralaru, Ten tirumullai vaiyal Tirupatigam, Tiruppurampayat tiruppatigam etc.,

Pandara Sastras

Published works are seventy five in total. The important are Sittānantha Nicchiyam, Sambirataya teebam, Siharatna mālai, Tasamanimālai, Sivānantha bōdasāram etc.,

Panniru Tirumurai Publications[52]

They are eleven in total. They are Tirugnanasambantha Swamigal Tēvāram, Tirunāvukkarasu Swamigal Tēvāram, Sundaramūrthi Swamigal Tēvāram, Tiruvāsagam-Tirukkōvaiyār etc.,

English Works

They are seventeen in total. They are helpful for the foreigners to understand the value of Tamil literature. They are Saivam, Swarajya, Thiruvayyaru, Thirubhuvanam, Saiva Siddhantam, the development of Saivism in South India etc.,

Puranic Works

They are thirteen in total. They are Tirumullaivāyil Purānam, Tiruvaiyāṟṟuppurāṇam, Puḷḷirukkuvērūr Purānam, Appar Swamigal Purānam, Tiruveṇṇainallūr Puranam etc.,

Apart from the publication works, the maṭha is doing the other Tamil service of awarding titles to Tamil scholars like R.P. Sethu Pillai, T.P. Meenakshi Suntharanār, K.V. Jagannāthan M. Rajamanickam, K. Vellaivāranār received titles from the heads of this maṭha. The maṭha also acts as the store house for keeping copper plates and palm-leaf manuscripts. The copper plates are thirteen in total and they help us to understand the history of Vijayanagar and Sarabhōji kings. The palm-leaf manuscripts are related to Linga Puranam, Sivagnanasittiyār, Paranjōthi Tiruviḷaiyāṭal, Periyapurāṇam etc.,

Creation of endowments and distribution of prizes are the other kinds of services rendered by the maṭha. The maṭha runs a college and an High school.

Tiruppananthal Adeenam:- The Ādeenam published a number of works on it's own care as well as by creating publication funds in the University, college, school levels. The books published on it's own care are ninety in total.

Books published through the Annamalai University publication fund, Tirukkuṟal publication fund, Paṉṉiru Tirumuṟai publication fund are more valuable to study the greatness of Tamil language The important works are "Panniru Tirumuṟai varalāru, Tirukkuṟal vraikkottu-Aṟam, Tirumanthiram, Ahattiyar Tēvārattiraṭṭu, Tiruvāsagam, Tiruttoṇḍar purāṇam etc.,

Moreover, the Ādeenam had created number of endowments for the distribution of prizes through schools, Colleges, Universities and Municipalities, for the development of Tamils. Endowments created for religious discourses as well as for inscribing the Tēvāram hymns on stone slabs are the noteworthy contributions of the maṭha.

Library:- The library attached with the maṭha, contains a large number of books relating to Logic, Philosophy, Astronomy, Mathematics, Geology, Geography, Botany, Zoology, Physiology, Physics, Sanitary Science, Chemistry, Agriculture, History, Politics, Economics, Engineering, Music, Dance, Drama Architecture, Sculpture and Painting.

College:- The college run by this Ādeenam, conducts Vidwan Classes, Under graduate and Post graduate classes for Tamil Subject.

Tiruvavaduturai Matha:- Like the other two maṭhas it has published a number of works. The works published in the maṭha are in the following order.

(a) Tirumuṟai Publications:- The Maṭha has Published the Dēvāram works of Appar, Sambandar and Sundarar. The other works are Tiruvembāvai, Tiruvāsagam, Tirumanthiram, Kirtti Thiruahaval, etc.,

(b) Sastra Works:- Thiruvunthiyar, Sivagnanabōdam. Irupa Irupakthu, Tiruvarutpayan, Sivagnanadeepam, etc.,

(c) Pandara Sastra Works:- Paṇḍāra Sāstram, Upadēsa Paktodai. Adisiyamālai Siddhanta Paktodai, etc.,

Literary works:- Mādhava Sivagnana Lōkihal Prabanthaṅgal Kacciyappa Munivar Prabandham, Panchākkara Dēsikar Anthāthi, Kacchiyanatha Rudrēsar Vaṇḍuviḍu tūthu, etc.,

Grammatical works:- Ilakkaṇa vilakkac chūrāvali, Tolkāppiyacchūtra Virutti, Sivalinga Tattuvam, etc.,

Historical works:- Tiruvāduturai Ādeena Varalāru, Arasavanattu Aranilaiyam, Guru Parambarai Vilakkam, etc.'

Logic:- Tarkkamirtham, Tarukka Saskiraham, etc.,

English works:- Introduction of Tirumanthiram, Transfusion of spirit, A short history of Thiruvavadurai Ādeenam. The sea, shore temple of Subrahmaṇya.

Apart from the above big three maṭhas, there are a few worthy for explanation. The Mavunaguru maṭam at Trichy encouraged the Tamil saint Tāyumānavar to write Tamil works. The works like Thiruvaruḷ vilāsap Parasivavaṇakkam, Porul Vanakkam, Paripūranānantham, Simayānanthaguru. Maunaguru Vaṇakkam are the real gifts to the Tamils. There was another maṭha called Meykaṇḍa Santati-maṭha at Villiyaṉūr in the days of late Nayaks. In it, a disciple of Meināna-Māmuṉi of Tiruvakkarai was the Pontiff. This maṭha encouraged the study of Siddhanta works like Sivajnanabōdam.

Other Adeenams of Tamil Nadu

(a) Kunrakkudi Adeenam:- By establishing Tirukkural Pēravai, the maṭha is doing great Tamil service. Through Thiruppattūr Tamil Peravai, the matha is encouraging Tamil Scholars by honouring them with titles. The maṭha contains a number of books relating to various fields. In this way, it acts as a library. Through Tamil Nadu Daiveekap Peravai, many seminars are being conducted.

(b) Suranar koyil Adeenam:- It was established by Sree Sivakkoluntha Sivāchāryār. The maṭha had translated the books like Sarvajnanōttaram, Dēvikālōttaram, Suruthi Sukthamālai in to Tamil. The Sastra work 'Sivanerippirakāsam', is the contribution of this maṭha. The above points indicate that the maṭha acted as a centre of Translation, as well as for writing original works. At present, the head called Deivasihāmani Sivākrayogi Swamigal is now indulging in the good efforts of publishing the Saiva Siddhanta works. The other Ādeenams doing the Tamil service are Thiruppugalūr Ādeenam, Vēlākkuricchi Ādeenam and Vēdāraniyam Varaṇīyādeenam.

Provision for libraries in the mathas! As the temple lands were left in charge of the heads of the maṭhas, they took the opportunity of using atleast a part of them for providing libraries in them. No concrate evidence is available about the maṭhas, attached with the maṭhas during the Pallava and Choḷa periods. An inscription[53] from Arulala perumal temple at Little Kāñchēpuram, refers to the collection of books (or a library) which were kept in the maṭha. The record runs as follows ivatēdina pustakaṅkaḷum Vēṇḍum upakaraṇaṅkaḷum. Here, it meant the collection of books (pustakankalum and the necessary accessories like a rack etc., for arranging the books and other apparatus required for a library (Vēṇḍum Upakaraṇankalum). During the Vijayanagar and Nayak periods, more libraries were attached with the maṭhas. Ādeenams like Thiruvavaduturai, Tiruppananthāl and Tharmapuram contain pacca libraries. Tharmapuram library contains five thousand seven hundred and seventeen books in Tamil. One thousand and twenty nine books in Sanskrit. Two thousand six hundred and nine books in English, Hundred and thirty nine books in Telugu, Nine books in Kannada. Ninety two books in Hindi, Fourteen books in Marathi, Twenty five books in Bengali, One in Punjabi, Seven books in Persian, Eight books in Arabi, Forty one books in Urudu, Hundred and sixty four in Greek, Hundred and seven in Lathin, Eighty books in French, Hundred and forty three books in German, Three books in Russian, One book in Spanish. Nine books in Italy and thirteen books in Hebrew. Thus the library, having books in twenty languages is serving as a centre of learning for Tamils. The library helps a number of scholars to do research.

An epigraph[64] dated in the year A.D. 1407 mentions a library belonging to the Sringeri Maṭha. The library was called Pustakabhaṇḍara. Another epigraph dated in the Year A.D. 1432, refers to the same library during the period of the King Devarāya II. The service rendered by this Sringeri Maṭha to the development of Tamil language is very much limited.

Some inscriptions[66] refer to the services rendered by the maṭhas to medicine. The persons well trained in treating the animals were encouraged by the maṭhas. The persons had profound knowledge in Tamil medicine. Moreover, it seems that books relating to such medicine should have been kept by the maṭhas, even though, no direct mentioning is made in the epigraphs.

The foregoing facts clearly indicate the part played by the maṭhas for the development of Tamils. There service is a note-worthy one, in the history of Tamil literature.

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Physical Education of the Tamils

P. ANANDA KUMAR

"In ancient days physical Education was part and parcel of the military science in all civilized societies. From Sangam period to chola period military culture was existed among the Tamils. And the knowledge of military science of the Tamils can be compared with that of the Greeks. The females took more active part in sports and games activities than males. The reasons for this is male's continuous involvement in war fare."

0. Introduction

Nowadays physical education has become a vast field consisting of Psychology, Sociology and Physiology. So far many scholars have given definition about Physical Education. According to Weber, Physical Education is,

"Education in its application to the development and care of the body[1]" Resick and siedel says,

"Physical Education is the art and Science of human movement.[2]"

Daryl Siedentop has improved the definition as,

"The subject matter of Physical Education is Sport, games dance, aquatics, out door pursuits and other culturally institutionalized forms of Physical play.[3]"

The aspects of Physical Education can be classified as follows:

1. Physical Training (The excercises done by soldiers to strengthen their physique)

2. Physical Culture (cultivating Best physique and weight lifting)

3. Gymnastics

4. Games

With this background let us go to the Physical Education of the Tamils.

1. Physical Education as military science

1.0 In ancient days Physical Education was part and parcel of the military science in all civilized societies. For example we can cite the concept of the Physical Education of Ancient Greeks and Romans[4].

1.1 Methods of War

1.1.1. Four types of Army

According to Tolkāppiyam Tamils have four types of Army i.e. infantry, cavalry, chariot Army and Elephant Army.[5] During Imperial Chola period Tamils had a well structured Navy also. Only with this Naval force they were able to conquer the countries abroad.

1.1.2 Wrestling

Apart from this, Ancient Tamils treated wrestling also as a war method. The Tamils had best training in wrestling. References can be had in Tolkāppiam for this.[6] In Sangam Literature the Chola king 'Pōravai Kō Peru Nar kiḷḷi' is portrayed as a Best wrestler. He very ably defeated the famous wrestler named Āmūr maḷḷan in a wrestling match.[7] In the wrestilng match between the Chola king and Āmūr maḷḷan, the Chola King pushed down the Āmūr maḷḷa and pressed with his leg on his chest. Even now a days this position in wrestling is considered to be a victory in Indian wrestling contests.

In Akanānūru a wrestler named Pāṇam had killed the Ārya malla by crushing his neck with his huge arms.[8] Even nowadays this type of position i.e. crushieg the opponent's neck by arms is a professional technique in Indian wrestling. By these examples we can very well infer that even during ancient days the wrestling had been a well developed art with its unique techniques.

References about wrestling can be found in Cilapatikāram[9] and Puṟapporuḷ Veṇbamālai[10]. We assume in the Pallava period wrestling had attained its superior place; the Narasimma Pallava had a nick name as Mā mallan. Even today there exists a caste by name Mallahac Cheṭṭiar.

1.1.3 Boxing

In Paṭṭinappalai there is a reference about soldiers fought with arms and weapons.[11] So we can infer that boxing was also a war method adapted by ancient tamils with the help of Physical Training.

1.2. Military Weapons

In ancient days sword, spear and bow were the weapons used during the warfare by the Tamils. Tolkāppiyam and other Sangam works gives numerous illustrations to explain this.[12]

1.3. Military Training centres and military training

In ancient Tamil Nadu the military training centres were called as 'Pōravai' and 'Muraṇ Kaḷari'[13] soldiers were trained in this centres. In Sangam literature there is a reference about soldiers being trained by throwing the spears on murunkai tree.[14] The Archery was also well developed in Sangam period. There was a king 'Valvil Ōri' who was famous for his ability in archery. There are references about very young boys being sent off to war with spear by their mothers.[15] This evidence shows that even small boys got training in warfare. In Greek also childrens were given military training at the age of seven.[16]

In Puranānūṟu there is a song which deals with the duties of various people in society.

" To bear and bring up is my duty
To make him a warrior the father's duty
To cast spears for him is the duty of the smith
To Instruct him in the proper conduct is the duty of the king
The youth's duty is to go armed with the shining sword to the fierce battle ground and return killing the elephants "

(Puṟam-312)

this song shows that entire outlook of the society is military oriented. Therefore the ancient Tamil Nadu had a military culture like that of the Greek's spartacus.

Sālais and Gaḍikhas were functioned mostly as centres of military training during the midevel period. According to T. N. Subramaniam "military science was taught in Gaḍikha of Kanci"[17] In this Gaḍikha Archery (Daṉurvēda) was taught.[18] In Chōla period Khandaḻūr Sālai near Trivandrum was a famous institution for military training. King Raja raja Chōḻa rectified the confusion in that prevailed in the institution and enforced his rule over it.[19] Kaliṅkattu Paraṇi also refers this incident.[20]

According to historians there were Mūlappadai, Kūlrppadai' Tuṇaippadai, Kāṭṭuppadai, Pakaippadai were existing in this period.[21] So we can arrive at a conclusion that apart from Regal patronized military institutions another type of local military training institutions might have been functioned among the civilians.

In Peria Purānam an incident shows the conflict between ēṉātināthā and atisūrā groups. Ēṉatinātā was a head of the military training centre which was regally patronized one.[22] So the athisūrā who fought against ēṉāti nāthā might have belonged to the Local military training institutions. In Chola period, best elephant fighters were called as Kuñcara mallar. Best sword trainers were called as Kaikōḷar. During lapse of time these titles have became names of castes. Best archers were called as Terinta Villikaḷ.[23]

1.4 Books on military science

The Ancient Tamils had written all the techniques entertained in infantry, cavalry, elephant war and chariot war in Book form. In Parimēl Aḻagaṟ's commentary for Tirukkuṟaḷ. There is a reference about these books which a king must have mastered for proper ruling.[24] In great epic Cīvakacintāmaṇi, while Cīvakā teaching the elephant fight to Vijayan and his brothers he mentions about various techniques which were found in books about elephant war. i.e. hiding between elephant legs; hiding between the elephant horns; escaping from the elephant trunk.[25] According

to S. Gurumurthy 'Rajasimma Pallava learn the 'Gajasastra' the science of elephant fighting.[26]

1.5 Military culture and worship

In the Sangam Heroic age there was a belief that people who died in war can enter into the heaven. The people who died in war were honoured by installing Hero stones in which the name and achievements of the solider was written. This tradition continues in modern days by worshiping Heroes of the folk ballads who violated the social customs. In ancient days soliders who showed the velour in warfare are honoured by giving titles like 'kāvithi' and ēnāti' the ancient Tamils worship Muruga as their deity.[27] Worshiping of Korravai too was related with warfare.[28] In the Vijayanagara period Hanuman was worshipped as war deity. Even today many of the traditional gymnasiums Hanuman cult is existing.

1.6 Festivals

When the Archery training was started, warriors conducted a festival by name 'Pūntoḍaiviḷa. In Akanānūṛu we can cite reference for this.[29]

1.7 Military Dances

1.7.0 In ancient days warriors conducted dances related to the steps and methods of warfare. Among this kuravai, tuṇaṅkai, nūḷil, mallāḍal deserve specific mentioning.

1.7.1 Kuravai Adal

In 'Vāgai tiṇai' warriors who won the war danced with their captains in front and back of the chariot of the king. Tolkāppiyam describes this in detail.[30] In Pathiṛṛuppattu there is a reference of this dance i.e. warriors during along with the king linking each other hands in the middle loft of the chariot.[31] The commentator Naccinarkiniyar cites this as an example for muṉtēr kuravai. For Piṉ tēr Kuravai he cites another poem from Puṟanāṉūṟu as an example.[32]

1.7.2 Tunankai

Warriors who won the war blowing their shouldiers and dance amids corps was called as Tuṇaṅkai. In Pattiṟṟuppattu references about this type of dance can be seen.[33]

1.7.3 Nulil

While war is going on one soldier of the succeeding army receding from the army and rotating his spear and dancing is called as Nūḻil. Medival period Purapporuḷ Veṉbamālai treatise discusses this.[34]

1,7.4. Malladal

Cilapatikāram refers eleven types of dances which were practised in those days. They are alliyam, marakkāl, Pāṇḍaraknām, Mal, tuḍi, Kaḍaiyam, Pēḍu, Koṭṭi, Kuḍai, Kuḍam and Pāvai.[35] Among this mallādal may be an imitation of wrestling. In ancient Greek pyrrihic dance was imitated from sword fighting. In this dance "naked youths armed swords and sheilds danced imitating the military manoeuvres such as charging, thrusting, retreating etc."[36] In Tamils also, the steps in Oyilattam, more or less reflect the steps of silambam i.e. a defence Art.[37] In medival period wrestling was separated from warfare and developed as an independent aspect of games. In Kalinkattu-parani wrestling was witnessed as an entertainment by the king.[38]

2. Games

2.0 Ancient Tamils created interest for the youths in games and thereby developed their physique. Remaining without playing was considered as an immoral act.[39] Men, women, children and aged people played games relevant to their physical and mental temperaments.

2.1 Bull-Fighting

This is Heroic game of the Tamils. Mullaikali refers about this game.[40] The performance of the game on particular day were announced to the General Public with the beating of drums. Bull fighting was conducted in the stall of cattles, The youth who defeats bull in the fighting was honoured by getting him married with the particular girl. This type of bull fighting was practised among ancient egypicians and minovans.[41] In Tamil Nadu from ancient to till days bull fighting is practised.

2.2 Sling

In Pattinappalai there were references about men who practised this type of game.[42]

2.3 Aquatics

Swimming was a non-formal education in ancient Tamil Nadu. Puṟanāṉūṟu describes the youths who jumped into the pool and swimmed and bringing the soil,[43] other Sangam works also deal with this Aquatics in detail.

2.4 Swing

Swinging was one of the games of young women. They had prepared sitting plate for this swing by the cleared Palmera leaves and shark thorns. This plate was tied in both sides with long coir, and fixed this upon vēṅkai or Naḷal tree branches and played.[44]

2.5 Playball

This game was also meant for women only. This game was played in the courtyard of the house, back side of the house and in the play ground. The ball was made up of thread. It was ornamented and called as 'Vari Puṉai Pantu'[45] In Sangam poetry the phrases like ādupantu (play ball) and eṟipantu (throw ball) are denotes various methods of playing balls, that were vogue in those days. Moreover there were evidences for which throw some light about football and sky ball.[46]

During the Chola period there are evidences for women playing the balls.[47] In Peruṅkatai playball was developed as a competative sport and tournament were conducted.[48]

2.6. Other games

Other games like kalṅkeḍal, hiding puṉṉai seed and finding out, Ōrai, and Kaḷai kūttu were existed in the Sangam period for women.[49] Among this kaḷai kūthu was practised by āryans as a Gymnastics.

For aged people there was one game by named Vallāttam.[50] For children there were many games. In modern Tamil Nadu approximately more than hundred folk game are in practise.

3. Physical Education and the Yoga

3.0 Yoga had been developed as a part of the Tamils physical education. According to S. K. Cattergi 'Puja and yoga are belong to the Dravidian race.'[51] Even in Tirukkuṟaḷ the concept of controlling the five senses is had been dealt with.[52] So we can assume that yoga was in practice from ancient days.

3.1 Yoga method gives strength and health to the body. It is practised methodically i.e. concentrating the five senses into one inhaling and controlling the breathing (prāṇā) and direct to all the nādis or nerve channels of the body. This yoga system is psycho-physical system. Tamil used this yoga system to attain spiritual salvation. Physical immobility and mental immobility are important in the yoga system. Physical immobility is controlled by Āsanās. Tamil's yogas suggest eight stages i.e. iyamam, niyamam, āsanam, voḷinilai, thokainilai, poṟainilai niñaital, samathi.[53]

3.2 From the age of Tirumular this yoga system was considered as a siddha method, Tirumula supposed to be the first siddha. Siddhas gave important to the physique. Therefore they considered the human body as temple.[54]

3.3 Among the siddhas 'kayasiddhas' had better knowledge, about the body, yoga and medicine. They wrote many books which were very popular among the Tamils in the 16th & 17th centuries.

3.4 These siddhas gave medicine by analysing the disease on vadam, pitham, silethman nāḍs grounds. This three nāḍis are also mentioned by Tiruvaḷḷuvar.[55] Siddhas were well-versed in the movement of the body by analysing it according to the science of nadi sastram. Even now the modern physical education this analysis comes under kinesiology.[56]

3.5 The Āsañas which were developed by the Siddhas are practised even today as exercise for medical propose by the Tamils.

4. Traditional Gymanasiums

4.0 The military culture of the Tamils which is existing from Sangam period to Chola period gradually changed. From 14th century onwards the methods of physical education utilized with military purpose changed into physical culture and traditional Gymnasiums were created. These gymnasiums exist all over India. The developement of regular army system avoided the situation of all the people involving in warfare. So physical training changed physical culture. In North India traditional gymnasiums called as Agathas or Talimganas. In South India they were called as Kaḷari, Karaḍikūḍam, Silambakūḍam. In these traditional gymnasiums Dand, Baithak and Wrestling were generally taught.

5.1 Karadi Kudam

5.0.1 In Tamil Nadu traditional gymnasiums are called, as Karaḍikūḍam or silambakūḍam. The term Silambakūḍam occured in Paranjothi Tiruvilayaḍal puranam.[57] In this traditional gymnasiums defence arts like silambam, vaṛmam and wrestling and excercise like Dand Baithak, stone lifting (iḻavaṭṭakal) karla, Jamthala stone rotating were taught in gurukula system.

5.1.1 Silambam

Silambam is a self defence art used against wild animals and human foes. The staff used in Silambam to attack and defence. In this defence art steps place an important role. In contestant who makes the first three marks on the opponent's body by touches with his staff is declared the winner. Ceḍikucci game, kombu rotating, pañthukōl rotating, kōpaṭṭa rotating, clock springs rotating are secondary plays related to this silambam.

5.1.2 Varnam

It is a defence art developed by siddhas. Vaṟnam denotes the soft organs of our body. In total there are one hundred and eight vaṟma places are in our body.[58] When some body touch, punch or beat in this vaṟma places, a man faints;

sometimes, he may even die. There methods to release a man from this sickness. Siddhas wrote many books on this for example, Vaṟma Pirnki, Vaṟmatiṟuvakōl, Poṉṉusi, Vaṟmakaṇṇādi may be cited. Recently a manuscript book 'Kuruntadi Sirama Sastram' belong to the 16th or 17th century was found. This book explains the steps to use with two feet stick to attack in Varma places in detail.[59] The varma art related to defence arts like silambam and medical methods.

6. Physical Education in Modern period

6.1 Sandow pattern (1850-1950)

In the latter part of the century German Bar, Ring games and Japanese Acrobatics were introduced in all over India. More over in this period the German magician Houdini's adventure of escaping from looked iron chairs was popular. These interesting adventures induced the interest of the Tamils and made them to involve in activities like this. As a result in this period many sandows have made distinct achievements in the Tamils Traditional Gymnasiums.

Generally the people who achieved the Sandow title will exhibit their velour by

1. Carrying a big weighty stone upon their chest or back until an ammi will be broken which was upon the big stone.
2. Ting the iron chains in a tree and smashing it
3. Bending a strong iron rod
4. Carrying the elephant on their chest
5. Tearing a 18 Gaug iron sheet
6. Stopping a running car by a single pull

Among the Sandows K. N. Sivaram Sandow of Madurai, L. Somasundaram Chettiar of Karaikudi. Sandow Nadesapillai of Pudukottai and Kaliyuga Beeman of K. K. District are worth here.

Sandow Nadesapillai was done a following achievement. Carrying a body in a thread cradle which was tied which two small ballraces which were placed in the two edes of eyes.

The another man V. N. Kesavaachary (Kaliyuga Beeman) showed his efficiency by cutting limes with his fingers, crushing gingelly seeds to spil the oil, writing with a iron pen which was weighing 50 kilos. This sandow training was related to circus company.

6.2 Wrestling competitions

Until the first half of the 20th century in many traditional gymnasiums wrestling competitions were arranged in order to creat interest among the public. In this regard Madurai city stood first. Many wrestlers came from other states and participated in this competitions. This created interest among the village people also. Wrestlers honoured with nick-names like emten, ciṭṭu kuruvi, mi<u>nn</u>al Iḍi, Vāl Pēri, Riffle according to their ability. Silambam were also conducted as a competative art.

6.3 Modern Gymnasiums

After 1940 western methods of physical exercises influenced upon the Tamils traditional gymnasiums. German system of parallel bar, Horizondal bar, Rings and American's scientific physical exercises introduced to this Gymnasiums. In 1948 Hercules Rajaram (Master of Physical Culture) has started a big modern Gymnasium at Madurai. It is the first biggest Gym. in India. He is the student of K. V. Iyer (Doctor of Physical Education) who is a product of famous American Physical Culture Trainer Atlas. In 1950's all over Tamil Nadu many modern gymnasiums have been started. Weightlifting place important role in it. In Tamil Nadu Lifter like Balamuruganandam got Arjuna Awards. In this period Body Building was also popular. Even ladies started doing excercises in order to reduced their weight. As days pass on this art is dwindling in this part of Tamil Nadu.

6.4 Physical Education in Educational Institutions

In the British once towards 1875 physical education introduced has become a part of curriculum in schools and colleges. Atheletic sports and games like cricket, hockey, football were encouraged in educational institutions. In physical

training classes, Drill and Callisthenics with marching were also introduced in schools. After Independence inspite of syllaby for Physical education had been formed for schools and colleges. Most of the boys took it the lighter wein. Here and there a few interested students pay more attention in this field and makes noteworthy achievements. In Tamil Nadu physical training colleges are functioning now at Karaikudi, Madras, Annamalai Nagar, and Coimbatore. Each and every district sports councils have been started by the Government of Tamil Nadu.

Conclusions

After considering the above mentioned details we can arrive at the following conclusions regarding physical education of the Tamils.

1. In ancient period the physical education of the Tamils are education of military science.

2. The knowledge of military science of the Tamils can be compared with that of the Greeks.

3. The Military training of the Tamil Nadu was a out and out male orientated one. Females were exempted from the military training. But in Greek females also took part in physical Training along with the males.

4. From Sangam period to Chola period military culture was existed among the Tamils.

5. In ancient days females took more active part in Sports and games activities than males. The reasons for this is male's continuous involvement in warfare.

6. The concept of yoga and nādi Sastra developed by siddhas are inline with the modern science of physiology.

7. After 14th century the aim and method of physical training turned into physical culture, self defence arts. Only in this period the traditional Gymnasiums had been started.

Foot Notes

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Medical Education of the Tamils

V. R. MADHAVAN

" The modern western Medical art is based upon scattered knowledge collected from several sources together with their fancies and speculations which they imagine to be a science proper; and so, modern science knows more about the superficiality of things of electronics and other modern inventions. It is noteworthy in this connection that long before these discoveries the Tamil Physician had found out many branches of medical science. And the system was handed down from teacher to student for centuries together and also they were written in palm leaves."

Introduction

Medicine has been taught and practiced in Tamilnadu from time immemorial. The knowledge of the ancient Tamils was understood to be of two kinds, that is the knowledge of Humanities and the knowledge of Sciences. The Humanities was represented by the study of languages and literatures, and the Sciences by Mathematics. These two branches of knowledge are spoken as the ' two eyes ' of a rational being. Here, mathematics is comprised the science of measuring time, place and substance. With the help of mathematical science they had acquired the knowledge of astrology. The agriculturist, fishermen and others made use of the knowledge of the movements of the planets and the seasonal variations for their day to-day life. Thus they had acquired the knowledge of study of envirnment including the study of flora and fauna. They have learnt what to feed and how to cultivate their need. Then they comprehended to combat diseases. They have learnt the nature of different diseases and the methods to conquer them. Being the earliest civilized people of the Southern Peninsula of

India, the Tamils thus cultivated the medical practices as they did in other fields also.

As we lost many Tamil literary works it is very difficult for us to present a detailed picture of the study of medical science made by our ancient Tamils. But works like Tolkappiyam and Sangam Literatures, etc., has left immense and enough evidences on medical education which was in vogue.

Traditional Medicine

The two main systems of Traditional Medicine has been in practice in India are called as Siddha and Ayurveda. Tamil medicine is otherwise known as Siddha system of medicine and based on Dravidiyan civilization. Ayurveda is developed from Aryan culture and has been taught in Sanskrit. Eventhough certain basic principles of Ayurveda and Siddha are common, their approach is entirely different from each other.

The term 'Ayurveda' was first mentioned in Silapadikaram denoted that this system of medicine slowly creeped into Tamil land and embraced the native Siddha system.

Here, it is important to note that, Ayurveda is not mentioned in the Brahmanas and Upanishuts, that is in the period of 800-600 B.C. Only Charaka and Sashruta mentioned Ayurveda and called it as Upanga of Adarvana Veda. The Vedic medicine contained only the beliefs and concepts of Indus Vally Civilization.[1]

Since Sanakya described in his Arthasastram about a kind of Gold which was called 'Vedajam' a transmutated metal into gold we can infer that Rasavada of Tamil Siddhas must have existed prior to his period of 3rd century B.C.[2] Hence we can conclude that Tamil Siddha medical science might have been prevailing even before 3rd century B. C.

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1. Dr. A. Kudumbaiah, Ancient Indian Medicine, P. XV-XVIII and XXI.
2. S. V. Radhakrishnan Sastri, Ananda Kandam Translation and Introduction, P.7.

During the period of Asoka (272-232 B.C.). Hospitals were established in South India especially in Chera, Chola, Pandiya and Sathiya Putra countries. The Buddist Monks or Therars spread the Gospel of Buddha in Tamilnadu by establishing monastries. They learnt medicine and practiced.[3] Hence it is presumed that the monks might have learnt the system of medicine which was prevalent at their time that is Tamil system of medicine.

It is opined that Jainism was propagated in Tamilnadu during 3rd century B.C. by Vaisaga Muni a deciple of Buthrabagu. It is confirmed from the Brami rock inscription of Madurai district in 3rd century B.C. Jains portrayed certain principles or morals like giving Food, Refuge, Medicine, Education and they did it as Charity wherever they settled. The Jain monks learnt the system of medicine of the Tamilnad and started practicing medicine in the monastries.[4] It is evident from the names of their literary work after the headings of which are widely used in Tamil medicine even to day i.e. Cirupancha moolam, Tirikadugam, Eladi.

Medical Education

We can find out the Tamil's cultural aspects like art, drama' etc., in the ancient literatures, but we could get no written records for Medical Education. One can able to make out from the literatures only about the medical science followed by them. References have shown that the practice of medicine with its allied branches was in vogue during the Sangam period. It is evident from the names of poets like Maruthuvan Damodaranar and Maruthuvan Nalasutanar that practice of medicine were carried out by independent practioners.

In the post Sangam period the Philosophical ideas dominated the field of medicine. Valluvar mentioned the various aspects of medical systems indicated the Thiridosa and Panchabutha theory in his text. Tamilians had cultural, political and commercial relationship with other nations at the period of Valluvar. Hence the cultural atmosphere of Tamil land was saturated with best thoughts. He observed the various conditions and aspects of life

3. Mailai Seeni Venkatasami, Bouthamum Tamilum, P. 20-29.
4. Mailai Seeni Venkatasami, Samanamum Tamilum, P. 41.

and compared with that of others prior to his period. The inclusion inspired him to write about medical thoughts which were formed by the intellcutuals prior to his time. The ten couplets (Kural 941-950) he devoted to medicine give a clue to the state of medicine in his period.[5]

During the period of Pallava, Chola and others, i.e., mediaeval period, there are many records and archaeological evidences for the existence of Hospital and medical schools and also mentioned the various other materials related to medicine. The Hospitals and Schools were maintained by the temples during the period of Vikrama Chola. A medical school was maintained at Thiruvavaduthurai. During the chola period; hospitals and medical schools were started.[6]

The inscription of mediaeval period belonging to the Cholas, Pandyas, Vijayanagara and Marathas contain detailed accounts about the establishment of rural dispensaries as well as well equipped hospitals in various parts of the country. The hospitals were known as *Atula Salai* and the physician as *Maruttuvar or Vaidyar* and the Surgeon as *Salliyakkiriyai ceyvan.* The doctors were paid in cash and kind by the Government. Tax free land was also assigned to them for their services and the grant was known as *Vaidyakkani.* Hospitals were also attached to the residential colleges run by the temples. The temples and mathas ran the hospitals and they also offered courses in medical education. Animal husbandry and veterinary science were also studied. The Tamils made a temendous progress in the field of public health and hygiene. Female nurses were appointed in the hospitals even as early as 12th century A.D. Salary and income of the medical men were very attractive when compared to modern scales. The Physician was drawing

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5. Dr. C. K. Sampath, Evolution and development of Siddha Medicine, Heritage of the Tamils-Siddha Medicine, P. 11

6. Ibid. P. 13.

more than Rs. 2000/- per month in addition to annual payment by gold.[7]

After the period of Vijayanagar Emperior, Tamilnadu was divided by several states which were ruled by different chiefs. They also patronised the medicines on their own lines. Raja of Sarafoji of Tanjore (1798-1832) collected the best of Siddha, Ayurveda and Unani recipes. Put them into test, standardised and brought them into print. In similar ways, he has brought out several volumes. Later Raja of Ramanad patronised Siddha system and he was bronght out a valuable text book on Siddha Medicine by name Vaidya Sara Sangraham. Thus the Rajas, Jamindars, Heads of Mutts, Temple trustees, charitable institutions and Mirasdars of different periods preserved the Tamil medical system and continues in practice.[8]

Siddhars and their System of Medicine

The medical system which is indigenous to the Tamil land is called as Siddha system of medicine. This system has been developed purely by the contribution of Tamil Siddhars on their own line of thinking and achievements in the field of their research.

Siddhars are supposed to have lived at a very remote period, and the period of their existence could not be exactly ascertained although it is said to be some thousands of years ago. Their school ceased to function long ago. Siddhars school of thought is called as Siddhar Margam. It started from Southern India or Navalan islands, that portion of land including the East Indies, the major portion of which had submerged in the ocean.

Siddhars are those who lived and maintained their bodies as they desired best. They had investigated that the body

7. Dr. S. Gurumurthy, Paper on History of Traditional Medicine, Medical men and Institutions in South India, presented in the International Conference on Traditional Medicine, Madras Jan, 23-25, 1986.

8. N. Kandasami pillai, History of Siddha Medicine, P. 541.

thought trasient was the only instrument for attaining success in the spiritual development and growth. They further realised that, if the body could only be made strong and perfect, they could get rid of birth and death and live for ages together. They are the greatest men holding tremendous powers in themselves by way of yoga practice and rejuvenation. Moreover, they laboured much in the field of Alchemy and Medicine. They clearly showed their knowledge and experience, together with some secrets and miracles involved therein, in their books. It is not to be forgotten here that they are considered to be the guardians of the world and exist for the benefit of the public at large. They are mainly responsible for the Tamil medicine of the present day and also for many other sciences of public utility.[9] Thus the Siddhar's period was one of intense and intellectual activity in all its arts and sciences, in the realm of Medicine, it was indeed a golden age.

Siddha system of Education

The Sidddha system of medicine in the beginning was taught by 'Guru-Sishya' method only. Here, it is important to note that, the Siddha system of education in ancient Tamilnadu was not imparted or organised on the scale of mass education like schools and colleges, but the ideal of education is, to treat it, as a secret and sacred process, for the reason that the process of an individual growth (inner) can only achieved by a close and constant touch between the teacher and the disciple in their personal relationship from which the whole world was excluded.

In ancient times, education, in all its branches of knowledge, was felt to be dealt with between the teacher and the disciple, much more in mental and spiritual growth.

Moreover, education itself was taken in its original true sense as involving the educing of the latest capacities and potentialities, the personality of the pupil concerned; and was therefore treated as a process of biological development, and not as a mere mechanical process, operating on the basis of

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9. T. V. Sambasivampillai, Tamil-English Dictionary, P. 2083

collective drill and training, as it is being done at the present day in the system of modern education. Mechanism is fatal to learning and sprituality where the mind and soul should be left free.

This is like treating the patients differing in their ailments to the same prescriptions, remedies and medicines in a Hospital. If a patient in the other hand, suffering from a particular disease, is given an individual treatment taking into consideration his physical, and mental defects, his condition will show much improvement. So, mass education stands condemned in the Siddha system.

The process of individual growth (inner) can only be achieved by means of a constant and close relationship between the pupil and the teacher. Even in Medical practice., as in other ways, mutual understanding between the patient and the physician is all the more a necessity, because no substantial progress can be expected thereof.

Paracelsus, the Greecian philosopher also observes as follows- a physician who knows nothing of the astral man and the innermost centre or the soul, with the external physical body, hence with no spiritual power in himself, can be nothing else but an ignoramus and a quack, even though he might have himself studied all medical books and graduated in all the medical colleges. His boasted science is nothing but an invention to cheat and deceive. It is useless and dangerous to make a practitioner out of a person who is not a physician at heart.[10] So, the Siddha system of Medical education was organised as ideal education with close relationship between the pupil and teacher only.

Literatures:- The printed matter of Siddha literature are available from 18th century onwards. But it does not mean that Siddha literatures were written only during that period. The system was handed down from teacher to student for centuries together and also they were written in palm leaves.

The standard literatures on Tamil Medicine of the eighteen Siddhars who were men of very high culture and intellect, consist of several thousands of verses by each, on different

10. T. V. Sambasivam pillai, Tamil-English Dictionary, p. 2086-87

subjects under medicine. Some of the preparations from metals and their use of poisons, alkalies and salts etc., are of high degree of perfection and many of which cannot be solved by even modern scientists, because they truly had a encyclopaedic mind guided by intuition.

They are familiar with the wonderful properties of rare drugs peculiar to South India, in their both physiological and psychological aspects. They choose not only to keep their bodies and souls together, but also to prolong their lives to a considerable extent.

Further, they had investigated and studied fully the cause and effect of diseases and all kinds of drugs, poisons and minerals; and thereby came to realise what is beneficial and what was not, to their existence in life.

Of course, they had laid a very strong foundation of medicine and the allied sciences in all its branches, enlarged and established them on a broader basis, and then passed them on to the successive generations with a view to permeate and fertilise it far and wide.

Literatures on the theory of pulse, Embryology, Ophthalmology, Surgery, Anatomy, Physiology, Pharmacognocy, Medical Glossary Meteria Medica, Preventive medicine, Methods of diagnosis by eight kinds of clinical examinations, Toxicology, etc., contain very many useful informations about the type of this system of medical education. Some of the authors like Bogar, Pulippani, Rama Devar, etc., of other countries also composed their works in Tamil verses.

Language and style

The language and style of the Siddha literatures in general is easy, fluent and colloquial. Some ancient scholarly Siddhars have written books in the best literary and high style also. Most of the Tamil medical literatures are written grammatically and in poetic form. These works were not dealt with medicine alone, but were mixed up with the principles of Astrology, Chemistry, Philosophy, Alchemy, etc., Some of the secret works such as Alchemy are written in code words, or enigmatic

language, so that others may not easily understand them; and it is only persons who made an extensive study of their works will have sufficient experience and knowledge to grasp the meaning easily.

The popular notion of imputing that they were all written in abstruse enigmatic language (Paripashi) and fashion, is simply incorrect, because the sense, import and connotation of their significantly pregnant words, have become changed in meaning in our own times. Moreover, we have neither their training nor depth of knowledge, as understood by them in a particular branch. Further, in enigmatic language the meaning is said to be hidden, and this appears to be so, because we never try to go into the root of the words or by the science of language and the science of words. If we carefully examine the literatures, each poem and word will tell its own story a reward of the deed done or of a thought by those to whom we owe the whole of our intellctual inheritance.

Conclusion

With these details we can arrive at the following conclusions.

1. Being the earliest civilized people, the Tamils had cultivated the medical prectices from time immemorial.

2. There are many evidences in Tolkappiyam and Sangam Literatures on medical education which was in vogue long before Sangam period.

3. Some of the evidences show that, during and after the period of Asoka, the Buddists and Jains learnt the Tamil system of medicine and practiced it.

4. Thiruvalluvar's ten couplets on medicine give a clue to the state of medical education and practice in his period.

5. During the mediaeval period, there are many records and archaeological evidences for the existence of medical schools and Hospitals and they also offered courses in medical education. Animal husbandry and Veterinary science were also studied at that time.

6. The Tamil medical system which is otherwise known as Siddha system of medicine is purely indigenous to the Tamil land and contributed by the Siddhars who laboured much in the field of Medicine as they did in other fields such as Alchemy. Yoga, Astrology, etc.,

7. The Tamil Siddha system of medical education in the beginning was taught by Teacher-Student method only. It was not imparted or organised on mass scale.

8. This system of education was handed down from teacher to student for centuries together.

9. There are plenty of Medical literatures found composed by different Siddhars and available even today. They tell us the different type of branches of medical education taught during their periods.

10. The language and style of the Tamil medical literatures in general is easy. But some of them are in high style also.

11. These literatures are in palm-leaf manuscripts in their original Tamil and in translation and found scattered throughout the civilised world.

12. There is still a possibility of getting unearthed many an important Tamil medical literatures found in various places in and abroad.

13. Modern science education is so vast and the Tamil medical education is also so vast. Around three hundred years ago, the allopathic system was not so well developed as it is now, During these periods they had developed their knowledge by preparing enormous number of books on scientific principles in various fields. But, eventhough the Tamil Siddhars who have practised and taught the Tamil medical system and left a massive literature in Tamil on palm leaves, all of them are not yet come to light and given to the public utility.

14. Further, some of the important methods of diagnosis and treatment of diseases of the Tamil medical system are of great wonders now for many modern scientists.

15. So, it is a challenging time for us to bring out standard editions of Tamil medical literatures found scattered all over the world which would reveal the exact and real nature of medical education given in this land long before the so-called 'discoveries' had been made in Western countries.

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Curriculum of ancient Tamil's Educational System and its uses

Dr. A. PITCHAI

"Relevance and flexibility were two important characteristics of the curriculum of ancient Tamil educational system. This type of curriculum was highly useful in imparting skills, values and knowledge to students to face challenges of life and to solve problems emerged. What they learnt was socially relevant and practicable in all walks of life.

Introduction

Curriculum is, by and large, the basic frame work of any educational system. As it is an essential integral component, it occupies the pride of place in the gamut of an educational system. Nowadays, it is recognised as a distinct discipline in such a way that courses and training in curriculum planning, curriculum development, curriculum management, curriculum innovation, curriculum evaluation and curriculum restructurings are imparted in Western countries. Although the concept of curriculum in the Tamil educational system seems to be of recent origin, one could trace the development of some aspects of ancient curriculum in the Tamilnadu based on the available literary data collected from Caṅkam classics.

Educational System

Education was held in high esteem in ancient Tamil society The king and his people received education in various capacities and branches of knowledge according to the needs and mental abilities. More emphasis was laid on starting education during the childhood (K. T:33). As the provision of education was one of the duties of father, it was the private concern of the family. Co-education was in vogue and female education was not ignored. Students were expected to help

the teacher physically and financially at the time of need (Puram : 183). Inshort, the educational system of the Tamils was liberal, need-based and life-oriented.

Besides the indigenous system, northern religious educational system might be prevalent during the Cañkam epoch. Brahmins, Buddhists and Jains had set up a few schools in Tamil Nadu with a view to spread religious ideas for conversion. Maturaik Kañchi vividly describes the 'Paḷḷis' (monastries) of Buddhists, Brahmins and Jains (M.K.465-486). Brahministic education was restricted to the Brahmins or higher castes whereas Buddhist and Jain education were common to all the people regardless of caste and land. The dominance of northern religious-oriented education over Tamil secular education became stronger after the Cañkam era and it is learnt from the emergence of abundance of post-Cañkam ethical works. However, the educational system of the Tamils continued to exist with some modifications.

Aspects of Curriculum

As already stated, curriculum is a vital part of an educational system. Generally, it is composed of (1) Aims and objectives (2) Content (3) Teaching methods and Aids and (4) Evaluation. All these four aspects are interrelated and interdependent. As the King or Chieftan did not establish and administer schools in ancient times, there was not a centralised agency or counsil to control the curricular process. The prescribed book by the teacher was the curriculum for the students. Hence, book-centred or text centred education was in force.

In marapiyal, Tolka:ppiyar enumerates the nature, structure, kinds, composition, defects and techniques of the text. The teacher was in so flexible position that he could prescribe any text in tune with the needs and desires of the society and the learner. Teachers enjoyed a sort of full academic freedom in selecting and prescribing suitable books to their students. No external pressure was excerted on the teachers to follow certain texts. Hence, relevance and flexiblity were two important characteristics of the curriculum of ancient Tamil educational system.

Aims and objectives

In ancient Tamil Nadu, education was imparted with some general and specific objectives. According to Tolka : ppiyar, inpam (pleasure), poruḷ (wealth) and aṟam (morality) are indispensable components of life (T.P : 89). Significance and order of these three aspects of life are very close to the development of Id (pleasure principle), ego (reality principle) and Superego (moral principle). Further, these objectives of human pursuit also agree with the Maslow's theory of Human Motivation which envisages physical needs, security needs, love and belonging needs, social esteem need and self-actualization need. Hence, inpam, poruḷ and aṟam are considered as the aims and objectives of ancient Tamil education which aimed at preserving the civilization, transmitting culture to the posterity and acting as interpretor and innovator of culture.

The Caṅkam era witnessed a slight change in the order of objectives. Due to the influence of Aryan culture and civilization, aṟam was given first top priority while inpam was placed in the third position. The change is faithfully recorded in Puṟana : ṉuṟn. Later, Vi : ṭu which refers to the eternal bliss and real liberation of worldly bondage. Tiruvaḷḷuvar gives a clear exposition of objectives and effects of education in the chapters-Kalvi and Kalla : mai.

Content

Ancient Tamils had two levels or phases of education, namely, (1) Basic education and (2) Higer education. The course content of basic education was the so called 3R'S— Reading, Writing and Arithmetic. Elementary information on "five elements" (Panca pu : taṅkaḷ) such as land, water, fire, air and sky might be part of basic curriculum. Tiruvaḷḷuvar compares numeracy and literacy with two eyes of human being; he adds that illiterate's eyes are not "eyes" but wounds (T. K : 392, 93). These ideas underlines that basic education was part of life skills. It is interesting to note that the numeracy or mathematics was more stressed than literacy, because mathematics is the basis for all sorts of sciences

and it has a higher frequency of use when compared to literacy in day-to-day activities.

Higher education envisaged vocational subjects as well as academic subjects. Students received profound training in the fields of their interest and preference with higher motivation and service mind. Literature, grammar, astronomy, astrology, dance, music, drama, gymnastics, translation, compilation medicine, painting, sculpture, architecture, engineering, crafts, mathematics, animal husbandry and so on are some of the subjects offered in the centres of higher learning. Madurai city during the Caṅkam period and Kanchipuram during the post Caṅkam period were famous advanced centres of creativity translation, compilation and research. Tolka : ppiyar makes mention of a custom that one could seperate from his family for a period of not exceeding three years in order to obtain higher education. He further adds that such seperation is applicable to elite classes (antaṉar and arasar) only. Madurai Tamil Academy was undoubtedly the supreme council for recognising and fostering talents and scholarship in Tamil Nadu.

Literature

Tolka : ppiyar mentions seven types of compositions. They are (1) Pa : ṭṭu (poetry), (2) Urai (prose), (3) Va : ymoḷi (Hymn), (4) nu : l (grammar), (5) Pici (viddle), (6) aṅkatam (satire), (7) mutucol (proverb). Literature and grammar were studied together. Akattiyam and Tolka : ppiyam were standard grammatical treatises for students of higher education. Some of the earlie, poems of the Cañkan classics might have been studied. A tradition reveals a fact that Kapilar composed the Kurincippa : ṭṭu to teach the love concept of the Tamils to Brahatta who was an Arya prince. The excellent poetry of Caṅkam period indirectly points out what standard of higher education existed pre-Caṅkam period. Kapilar, Auvaiya : r, Paraṉar and Māṅkuṭi Marutana : r, were celebrated scholars of ancient Tamil Nadu.

Fine Arts

A variety of fine arts flourished during the Caṅkam age. Tolka : ppiyar refers to a treatise on instrumental music. Mutu

na : rai, Mutukuruku and Icainuṉukkam which were not handed down us are referred to as standard books on music. Painting was in vogue. Cilappatikāram commendator tells us "Oviyaccennul" (cil : I/8 : 23-26). Treaties on Tamil dance and drama were composed but they fell into Oblivion now. Cilappatika : ram presents us a panoromic view of all fine arts that existed during the post-Caṅkam period.

Astronomy

Astronomy was taught as a branch of higher mathematics. The position of the celestial bodies, forecasts of their position, their orbit and their effect on human life were worked out in advance. The specialist in astronomy was called as a gani. Kuṭalu : r Kiḷa : r Pu : ṅkuṉṟan and some others were scholars in this branch of science. Movements of planets and stars was well known to the ancient Tamils.

Engineering

Engineering was an advanced branch of science at the begining of the Christian era. History records that Karika : l Co : la I built a great irrigation dam across the Cauveri river by about B. C. 100. The dam exists even now with some superficial modifications. From Puṟana : ṉu : ṟu it is learnt that there was an automatic airship which was operated without a pilot, The Pu : t apura : nam was a physical science treatise which dealt with energy and matter but unfortunately it is not available to us. Town planning and shipbuilding were important areas of achievement and their engineering skills reached a point of high merit. Madurai city bears ample testimony to show town planning and architecture of ancient Tamils. Maduraikka : nchi states that the streets of Madurai were as wide as river ways. All these ideas underlines the growth of rational outlook of the Tamils.

Medicine

The Caṅkam era witnessed an unprecendented progress in medical science. Maruttuvaṉ Tāmo : tarana : r, a poet was a medical practitioner. Some of ethical works as Tirikaṭukam, E : la : ti and ciṟupanchamu : lam bear medicinal names, Tiruvaḷḷvar

devotes a full chapter to deal with medicine. The first couplet in the chapter refers to a medical treatise. Diagnosis and etiology of the disease, therauputic measures and importance of prevention of disease are dealt with in the chapter. Anatomy of human body, ovaluation, treatment for cuts with cotton bandage were also known to the Tamils. They belived that a disease is formed due to change of composition in five elements of human body. Their medical theory was based or rational thoughts, not on superstition or mandira.

Physical Education

Physical culture was an indispensable part of Tamil civilization and socialization. There were some teachers who offered strenous courses in physical education. Ma : kk : yar was considered as the physical education teacher during the Caṅkam age. Names of some poets end in "Maḷḷana : r" which means "wrestler". So, wrestling was practiced then. Pira : nca : ttana : r tells us that if the children/youth are forced to stay at home without allowing them play, it is not a justful act and their strength will be lowered. (Naṟ : 68/1-3). His lines stresses the importance of physical activities to be provided to the children. Akana : ṉu :ṟu mentions a ceremony which is conducted on the first day of the training of "bowing" (Akam: 186-9) Paṭṭinappa : lai refers to Kaḷari (gymnasium) where maṟavars of Paṭṭinappa : kkam and Maruvurppa; kkam indulged in wrestling (Pat : 59-74). Cilappatika : ram commendator cites a treatise on Human Physiology and its perfection (Cil : 16/162). Wrestling bowing, playing ball, tiger-game, daming the bulls and so on were some of the games that provided oppurtunities for competition and co-operation towards a healthy social life. All these show that physical education culminated a stage of high standard.

Teaching method and aids

The so called "Lecture method" was used in instruction. Tolka : ppiyar in the chapter of Kiḷaviya : kkam, explains the pattern of question and answer and he also mentions the teaching of vocabulory on the principle of "from known to unknown (T.C. 93-97)," Thiruvaḷḷuvar highlights the importance of listening in the chapter "Ke: lvi', in such a way that listening

is better than reading. Debate was used as a method of teaching at mass level. Paṭṭinappa : lai (Pat : 169-71) and Maturaikkanci (Mat : 373) refer to the debate in which different flags were raised to mark competition to be held.

A book of palm leaves and stylus were used as aids while learning. In Marapiyal, Tolka : ppiyar gives a detailed account of the book or text. He classifies the book into two types, viz, 1. mutal nu : l (original text) and 2. vaḻi nu : l (adopted text), He makes sub-classification of vaḻi nu : l into four kinds such as abridged text, explanatory text, both abridged and explanatory text and translated text. These books should be devoid of ten blemishes. They may employ some of techniques from a list of 32 techniques. (T.P. 95, 98, 110 × 112). This vivid picture of the text enables us to conclude that the text was the first and foremost aid in instruction.

Evaluation

In ancient times, there was no a system of mass examination or group testing. Students were expected to master over the whole subject or text and to exhibit their skills to the public on some special occassions. Recall was used as the method of testing during the process of learning. Learning and testing went together as in Modern Programmed Instruction which lays stress on self paced learning and reinforcement through immediate feed back. Individual testing was more prevalent than group testing in the sense that the student ought to reproduce orally the whole text with comprehension. Hence, ancient educational evaluation was individual, formative, concurrent, on-going, power-oriented, verbal, oral and internal. It is obvious that there was no final and external evaluation. They were graded but not branded as "successful candidates" or "failed candidates". The extent of practising in life what they learnt helped the teacher in assessing the progress of his students.

Uses

The curriculum of ancient Tamil educational system was highly useful in imparting skills, values and knowledge to students to face challenges of life and to solve problems emerged. It led them to

undertake a joyful and righteous life. What they learnt was socially relavant and practicable in all walks of life. As their education was vocation-oriented aud craft-centred, they did not feel miseries of unemployment. Self-employment was the edifice of ancient curriculum. Their mind was strengthened, their physique was developed, their energy was channalised for constructive purpose, their outlook was broadened and their mental faculty was enriched. Physical, moral, spiritual and intellectual developments were aimed at creating integrated personality among the students. The overall development of human personality was the soul of ancient curriculum.

Conclusion

The educational system and curriculum of the ancient Tamils was praise-worthy and superb. This fact can be proved by the literary activity, culture and civilization of Caṅkam era which is regarded as the GOLDEN AGE of the history of the Tamils. Educational system of the ancient Tamils was secular and liberal in theory and practice. The objectives of the education was to develop a man of integrated personality in such a way that he could earn the wealth through fair means and lead life morally. Curriculum which was mainly text-based was socially relevant and academically flexible. A host of art and science subjects incorporated with vocational training were offered as optional, subjects at the higher level of learning. Lecture method or a method of dialogue was used in instruction and listening was highly stressed. Ancient educational evaluation of the Tamils was characterised by individual, formative, power-oriented, internal and oral approaches. The educational system and curriculum of ancient Tamils will lead us to go a way in evolving a system of Humanistic education which aims to develop eternal human values of all the periods and all the races.

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Learning Theory in the Exposition of Grammar in Tolkappiyam

Dr. D. ALBERT

" A study of Grammar should involve all the six objectives of the cognitive Domain from Knowledge to Evaluation. Unless one is able to recall, comprehend, apply, analysis, systhesise and judge one cannot be said to have learnt the particular subject or part of the course."

I

We know that certain learning theories are associated with certain teaching learning practices. We need to divide learning theories into Behavioural Theories and Concept theories. To each one under these we assign some teaching learning habits. These practices are the outcome of the practical applications of these psychological theories. A stimulus—Response classical Theory may say that practice makes perfect or repetition enforces habits. An Operant conditioning Theory may say that the motivation for the reward and the fear of punishment may reinforce the condition of the learning process. A concept formation Theory will show that a concept should be created by representation or presentation or imitation. Another may say that all education starts and ends by doing. A new value created should be structuriced with values already acquired. A Behavioural theory will say that learning outcomes should be exhibited in terms of behavioural patterns. With a phenomenological view one may say that the only sure perception we have is sense perception and therefore learning that makes use of this succeeds. With an Existential view one may say the student is be allowed to find his own pattern of development. Some of these strategies are in the area of methods and materials some in the area of attitudes and motivation and some come into the area of evaluation.[1]

In order to make my study clear I am trying to point out a certain number of layers in the teaching -learning process.

Apart from this continuum of philosophical, Sociological, psychological foundations, we have a level more Epistomological which enquires into what learning is.[3] What are usually termed theories of learning stop by asking how does learning take place and encourage certain practices on the strength of these theories but do not say what learning consists in. The former area is associated with pavlov, Skinner, Merleau, Ponte and a few others. It was indeed a weakness on the part of a number of advocates of learning theories not to have made a distinction between the two questions: How does learning take place? and What is learning? This distinction should have been brought out in terms of theories of theories in other words with different definitions of theories. The latter enquiry what is learning is associated with names like Benjamin Bloom, Elizabeth Simpson and David Krathwohl. They called a paradigm taxonomy of educational or learning objectives. These learning objectives bring together evaluation objectives and learning processes on epistomological and structural foundations.

Learning and therefore evaluation objectives belong to three areas. They are

1. Cognitive domain which emphasises intellectual outcomes.
2. Affective domain which emphasises feelings and emotions.
3: Psycho-motor domain which emphasises motor skills.

The study of grammar belongs to the cognitive domain or the area of intellectual outcomes. One may say there is something of the feelings in the forms of enthusiasm and or of admiration for the methods and of motor skills in the facility one acquires in using the linguistic nuts and bolts. But all these marginal outcomes are clearly taken care of by the skills taxonomically arranged in the respective domains. A book at the specifics will make this statement clear.

Cognitive Domain

1. Knowledge (ability to recall)
2. Comprehension

3. Application
4. Analysis
5. Synthesis
6. Evaluation (Judgement)

Affective Domain

1. Receiving
2. Responding
3. Valuing
4. Organization of value system
5. Characterization of a value complex

Psychomotor Domain

1. Perception
2. Set
3. Guided Response
4. Mechanism
5. Complex Response
6. Adaptation
7. Organization

A study of Grammar should involve all the six objectives of the cognitive Domain from knowledge to Evaluation. Unless one is able to recall, comprehend, apply, analyse, synthesise and judge one cannot be said to have learnt the particular subject or part of the course. It should be pointed out that that these objectives are taxonomical; they are arranged in a hierarchical ladder in the order of complexity. A few traces of the affective Domain and of the psychomotor Domain are also cultivated in the process of the cognitive domain. They are marginal and unconsicous If the study of literature is the case, the question whether it blongs to both the congnitive and affective is to be answered on the very debatable question whether literature should make us believe anything and this is

on the plane of literary criticism. On the pedagogical level the whole question depends upon what we aim at.

A look at Tolkāppiyam in the light of these observations will help as to come to the next level of educational complex where more truly and more usefully we see a learning theory in the exposition of grammar.

An application of the foregoing norms shows

1. Tolkāppiyam part I Phonology and Part II Morphology is not a treatise on theories of learning in the sense it tells us what happens when we learn grammar.

2. It is not a book of instruction on teaching practices in the sense of giving pieces of advice on teaching methods, meterials or evalution techniques for grammar learning - teaching.

These are very obvious but they are made explicit because they urge us to ask the question what then is the learning theory Tolkāppiyam employs,

At the next level, in the taxonomy of educational objectives, things do not become so simple. A summary dismissal is not possible.

3. We did not claim that Tolkāppiyam is a treatise on how we learn grammar. Neither do we say that it sets forth the objectives of learning grammar and techniques of evaluation for the successful learning of grammar.

But, since is sets forth a structure of grammar it must have followed a certain learning process. A grammarian does not tell us how we should learn his grammar but he does not hide the way he learnt it. The reconstruction of the way one learnt it to set forth in one's grammar and got it intermalized obviously becomes the structure of one's grammar. We are not thinking of wrong ways of learning grammar here.

What we said about the marginal benefits in the affective and psychomotor domains for a systematized learning in the

cognitive domain holds good here, Familarity with grammar is not a professional skill like engineering. Neither it belongs to the affective domain. But marginal benefits like the ability to handle this grammar in using and teaching or an enthusiasm for this grammar or for the language and literature whose analysis synthesis and evaluation this grammar is.

1. Any grammar goes a learning way. Therefore Tolkāppiyam recalls rather more consciously than many other grammars the language corpus, It recalls this with words like 'so say the learned' or 'it is said' in 250 places. Thus the first and the lowest level of recall called knowledge with some respect is shown to be made use of in the learning process undergone by the grammarian.

2. It is very obvious that the grammarian has profound understanding or comprehension of the huge language material available. But unfortunately his comprehension cannot be studied usefully to form a theory through a structure because the language and literary materials he comprehended is not available to us. We use mostly later literature for the sake of illustration and explication. It is unfortunate that some scholars question the usefulness of studying Tolkāppiyam because marginally some of these rules are not applied to-day. It is the way he comprehended the previous language corpus that is the astonishing, which most unfortunately is not mostly available. In spite of the changes Tolkāppiyam accounts for the changes. The phrase accounts for is used here in the linguistic, say Generative grammar sense or as it is used in research. A grammar is a structural model. Yet we do not claim that the strength of Tolkāppiyam as it gives us a theory of learning lieshere though its ability for comprehension can be evaluated with available material and the changes in language material. The complaint that Tolkāppiyam is old and not very useful for study today comes because we are trying to make a wrong use of it. We are trying to use it to know recall the mechanics of language and not a whole theory of language or theory of learning. This is very unfortunate.

3. The distinction just now made between a theory of language and the rude mechanics is crucial for many studies.

We cannot fail to see that Tolkāppiyam makes such a useful distinction. It is with this consciousness the grammarian arranges the first two chapters, the first he calls conventions of grammar and the second conventions of usage. I do not claim that all the verses in one are of linguistic grammar and all the verses in the second are of usage. But in most cases It is true. The first set of verses are declarative and the verses in the second are not so declarative. The first is/nūl/ and the second is/moḻi/.

This distinction is a direct outcome of the theory of research. We know that any linguistic search follows a research method. Thus a linguist first collects data and then accounts for them, making formulating a theory. The usages are the data and the theory is the grammar. Now we should point out that usages are the applications of the grammar. It is at this level we see the third objective on the taxonomy being employed. This grammar is an illustration of theory and its application. It is true that the two kinds of verses are not laid out separately in differnt chapters. They are mixed up even in chapter one and two where the titles show there is an attempt to make neat divisions. Chapter four contains mainly verses of grammar and five equally of grammar and the crude mechanics of language applications. There was no need for separating them very neatly because that was not the objective. Linguistic principles and the applications are found mixed up though the chapter headings go by an overall consciousness of the two sets. At the end of chapter two in part I on phonology the grammarian says, "omitting such complete descriptions I merely make statements about the way the pulmonic air stream is shaped meaningfully into sounds." Complete descriptions are different from statements. The first is the crude mechanics and the second linguistic grammar.

4 & 5 it is interesting to see that the educational objectives which are taxonomical are very revealing and helpful because as we soar into the higher of more complex objectives and look at linguistics though these norms we also soar into more complex linguistic concepts.

We know that contemporary grammar models are a kind of analysis-by-synthesis model. It analyses the language cropus and then formulates by synthesis what are known as rules in the transformational generative grammar sense.[8] The analysed data are distributed among the set of classes difined by the theory in any scientific research. It is clearly a process of analysis and synthesis.

This method is found in Tolkāppiyam too. This is the fourth-fifth level of the educational taxonomy. It collects data groups by analysing the data for its grammar. It happens all the time one uses language. This happens in the very methodology of the presentation of grammar.

Analysis and synthesis are concepts of description in Linguistics. Analysis is the description of an object by the dependencies of other objects whereas synthesis is the description of an object as a component of a class though the basic ideas are purely pedagogical. Difficulties scholars meet in Tolkāppiyam as repititions, omissions, idealizations and label as deficiencies interpolations are problems of analysis and synthesis. A most enlightening heory can be formed out of these so called difficulties in Tolkāppiyam. As this will be an exhaustive study I shell explain synthesis analysis by reference to everyday language usage.

A super structure in language is obviously an attempt at synthesizing whereas a deep structure is as analysis. Looking glasses is a superstructure which at the deeper level will go as glasses used for looking at one's self. What comes out from the depth is not a verbal structure mearly. We know the whole discourse is the context. Only the pertext will show whether it is looking like glasses or looking at the glasses and for what and with what effect. Thus the very use of the pattern of language is reduced to a process of analysis and synthesis and grammar constantly reveals the mysteries of the deep structure of the language.

6. The sixth Evaluation or judgement. It has been repeatedly said by writers that transformational generative grammar is evalua-

tion as different from discovery. Again we have to go to scientific research methodology to see what we mean by a method being evaluatory.[4]

Data is cellected, they are accounted and a theory is formed. Some data do not fit-in. More data are collected. We see a different theory now that accounts for the data. These two theories are to be evaluated then with certain norms. Generality and prediction are two of the useful norms. A more useful pattern is to be found which would account for more data and this pattern has to predict the infinite number of data that would follow in the language pattern.

Nine of the eighteen chapters in the two books on grammar show a clear awareness of this principle. It is interesting if not quite astonishing to see that the last verses in all these 50% of the 18 chapters speak about these openly and in Book II on morphology all these chapters lay it out more consciously. Chapter 3 Morphology on case-marker substitution ends by saying:

If there are other occurrences they may be understood by what are described here.[5]

There is a clear consciousness that the theory in this chapter accounts for data not mentioned here. Chapter 7 on Bound Morphemes ends by saying:

If others that are not mentioned here appear, their nature must be understood from what are mentioned here. This grammar insists that what mentioned here can adequately account for data not mentioned here. Again at the end of Chapter eight on free morphemes we find:

Scholars tell us that since it is not posible to draw a line of limitation to the semantics of these and other free morphemes which are extensive in the various ways and since it is not what we aim at either, one must come to understand then clearly by following the right method according to what is said in the body of rules which are the safeguards. This again insists on the idea that the theory laid down here accounts for the data.

Once again in the last chapter on concepts of extended structures he says in the final verse:

> all the words whose meaning is made clear
> in literature and in usage should be understood
> by proper diversion and analysis without
> infringing the rules of grammar.

Tolkāppiyam in fact gives clear evidence of two types of evaluation. It has made an evaluation of the available theories to account for the available language data and has selected the one that goes under the hoary name Tolkāppiyam. It also makes an evaluation of further data with the help of the theory formulated. It insistently asks us to do this evaluation with the help of the theory. In this it is like any other modern grammar models.

Thus all the six levels on the taxonomy of educational objectives are identified with the grammar model of Tolkāppiyam a model of contemporary grammar.

Let us consolidate what we have done to help us see what we are to do futher.

First Level

1. Psychological Learning Theories
   Tolkāppiyam is not this.
2. Teaching Tips
   Tolkāppiyam does not give these.

Second Level

Taxonomy of Education objectives. 2 & 3. Affective and psychomotor Domains. Only marginal benefits are obtained here.

1. The realization of the six objectives of the cognitive Domain are completely identified with the process steps in Linguistics more properly in modern, contemporary theories which in turn are identified with Research theories or Research Methodology.

I must stop here for a while to point out what can be done more usefully regarding the proper identification of Tolkāppiyam. The method of studying its learning theory background as laid down here should be gone into more thoroughly to establish its identification with the theories of Linguistics. If one looks at Tolkāppiyam in the light of the different systems from Ferdinand de Saussure through Louis Hjeimslev, Bloommfield, K. L. Pike, Linguists of the Prague School, J. R. Firth to Chomsky one will find astonighingly startling facts about the basic methodology this great grammarian has used, in the theory of language and literature and research. A most interesting study would come out if scholars try to find out how far the consciousness of these various schools are found in Tolkāppiyam."[6] The ordinary processes of language ability are so wonderfully grouped and seen through the processes and procedures of research in modern linguistics. The processes of the use of the Tamil language or so usefully and carefully laid out in Tolkāppiyam and a search into method will bring out its research methodology.

There is another aspect of Tolkāppiyam that requires some attention. Its verse form is obviously an attempt to help the learner's memory. This design to help us to recall is to be looked at from a historical point of view though this pedagogical method has gone out of use. Little admiration would Tolkāppiyam deserve today if we say that the verse form only helps our memory. There is something more than that in a grammar. We should not admire a thing for the wrong reasons. From nursery rhyme to great poetry the rhythmic joy is indispensible. But we will be doing little service to the cause of education, linguistic or literature if we hail this as the greatest achievement without going further because the whole point of attention here is this grammar's modern relevance. We don't say it was a great grammar when it was written, now only a museam piece without any relevance. For many centuries memorizing was the only known method of making copies that is easily accessible in a predominantly illiterate society that was also a society of orality. Therefore in all types of studies memory was considered the most

essential and the most important. We should consider the ability to recall verse after verse as a marginal benefit only or to recall information from the verse as a very elementary skill at the very first level today. Times have changed. The art of making copies of a text has changed hands, from heads to hands. It is very unfortunate for the intellectual life of a society if scholarship is decided upon one's ability to recall, the ability to memorize verses. The ability to recall is a very low ability. A dictionary a printed page or a tape will do this jop. Scholarship soars hierarchically into the five other criteria. More that one hundred years ago John Henry Newman said[7] "a great memory as I have already said does not make a philosopher any more than a dictionary can be called a grammar."

Tolkāppiyam kept its verse form as a sure method of learning it and this objectives is considered today as the lowest ability. We lament today that people 'study' literature and yet have not developed a sense of responsibility and it hasn't changed them. They 'study' it at this lowest level and our examinations (which examine nothing) examine only this lowest ability which does not bring about any change in them.

But still we have a great educational value in the verse form in Tolkāppiyam. The rhythmic joy already referred to draws our attention to its content and form and the language of criticism has to do this job always. The very discipline, in the words of Raymond Cowell[8] consists in the enthusiastic response it evokes which we see in the language. The ability of Tolkāppiyam to evoke such enthusiastic response is indeed admirable. Verse after verse indeed the whole work can be quoted. Very intricate and complicated grammar items are said with such easy elegance and this rhymic joy is the great educative value.

But one might ask where is the place for this item of educational value in the taxonomy complex. This does not belong here. It belongs to the next value complex for which this reference is only an introduction and it serves well as a good connective between what has been said and what is going to be said. It balances over want of enthusiasm for the verse form as it is taken merely to help memorizing the verses. It was pointed out that it served a noble

purpose by being the proper language of true criticism. Its greatness is in its neatness of the diction, its flow and above all the finality with which every verse ends showing that nothing has been left out from saying in the verse ; neither matter nor the sound continuum ends one before the other; every verse runs as much as the thought runs.

II

In the recent past there has been a lot of activity among theorists to see what principles would be used in the grouping of subjects. A number of ideas came up particularly in the context of interdisciplinary and multidisciplinary approaches in higher education and research. Some people thought that one's learning could not be complete and useful unless one knew a number of subjects, usually knowm as the arts and the sciences at an elementary level. In this context it became useful to think that different subjects can be belong to the same discipline. To cultivate the higher abilities one need not learn quite a number of subjects. Only a wrong notion about what is knowledge makes us think so. Above the contents of subjects there is an integrated code of higher cultivable abilities. The material of a subjects is called collection code because they only signify to which collection they might go. There is an integrated code and in this the abilities acquired in a few subjects are integrated into one single discipline. The context code is the subject. The superior code is the Discipline. Bernstein[9] says the subject may be called the surface structure and the discipline deep structure. Raymod Cowell tells us: The recent distinguished work on curriculum theory of such writers as Bruner, Bloom, Hirst, Peters, Phenix and others has radically changed educators' views on the nature of individual disciplines and inter-disciplinary fields. These discipilnes and fields are now defined not just in terms of their subject matter but also in terms of the kinds of learning they cultivate.[10] Hirst tells us that subjects can be grouped according to their conceptual logical and methodological features." Different subjects may develop one particular structure of experience.

The way this happens may be explained with the simple phrase Transference. Transference may take place at a multilatoral level

here. However this is not the point of discussion. It may be again, the cumulative effect of the taxonomic activities of learning about which we had a brief discussion in Part I. It may be the effect of the dominance of one or a set of these activities. But this is not the subject of discussion here. What we are concerned about is that there is a superior integrated code or a learning theory in Tolkāppiyam We are not at present interested in finding out which subjects go along with this grammar into one particular Integrated code. Neither are we interested at present in showing to integrated code the subject grammar belongs. Should all grammar belong to one integrated code? Do types of grammars belong to one integrated code? Is there a historical perspective in the sense of growth into different disciplines through development? These are questions for which very learned and lengthy answers alone could do any justice·

Our aim here is to show to what integrated code Tolkāppiyam belongs. If one is ready to sacrifice clarity for the sake of initial simplicity one might say that science as an Archetype is the Integrated code found in Tolkāppiyam. There is a certain amount of precision, a way of seeing subtle differences and a method of operation that takes language material as things. The opposite approach will be an interest in concept formation. Tolkāppiyam follows a method which can be indicated in Valluvar's direction which says that learning is to see the subtle.[12]

The precision with which Tolkāppiyam sees grammar is the presision we find in English grammar in our days after quite a few years of linguistic analysis and application. A complete historical comparative approach will be too exhaustive to accomodate here. We can start with a simple illustration. In a sentence Rama marries Sita, Rama and Sita are ordinarily termed nouns but they are also subject and object. Nouns and subjects are of different criteria. This notion was there for a long time. But only after a two centuries in English we came to a new consciousness. Ian Michael[13] explains the three criteria in the following way:

Formal. To say that neatness must be a noun because it ends in ness is to use a formal criterion semantic to say that neatness must be a noun because it is the name of something is to use the criterion of meaning: a semante criterion syntactic. To say that neatness must be a noun because it makes sense when put before the words pleases me is to use a syntactic criterion.

These concepts develop and people find that an object is called by its name and this name need not be called "a name" as a table is a table. Concepts of the meaning of measuring also develop and we find the tag ——— is the name of ——— is does not carry us very far. When we think of the shape of the entity or its morphology. We use a word like noun, when we think of the function we use a name like subject and when we have a placement notion we use a name like nominal. These became popular only after we saw that our earlier definitions were more notional than operational. When we say the noun is the name of a thing we have a notional concept, approach. This is not precise, it does not see distinctions. It is not operational. This very brief reference will show that the three precision, seeing subtle differences and the operational taking language corpus as things are closely linked into one complex value.

In the history of English grammar the three criteria of definitions viz. Semantic, Syntactic and Formal have a long period of interesting stories.[14] Up to the 16th century we see five periods in the general history of grammar. The beginnings of traditions are traced up to Aristotle. The period of the stoics the Alexandrian school and Apollonius Dyscolus upto the 2 C.B.C. from the next. One great grammarian Priscian of 500 A.D. becomes the centre of interest in the next period. 13th and 14th centuries from the next. Renaissance with Lily and Ramus in the 16th century in England is the fifth period. Grammar notions oscilate between the two standards the pragmatic and the philosophical, the notional and the operational, concepts and things, scientific and speculative. It is priscian of the third period who used the formal criteria very consistently and usefully.

Aristotle seems to have taken into consideration speech sounds also under grammar. The Greek philosopher's notions were rather rhetoric which analyses the relation between the speaker and the audience and not the relation between the speakar and words or between words themselves. Both in the classical tradition and in the English tradition some have insisted on the semantic criterion according to their objective of philosophical preoccupation. Semantic criterion was enforced by the scholastic tradition. Some have insisted on a mixed kind of criterion and some on purely formal criterion. Thrax and Donatus go in for a mixed form of criterion. Though Thrax came out with the first formal definition, Renaiasance thinking came to be more formal. In the English tradition the nature of the language we see influenced very much the choice of the criteria. Since English lacks inflection the formal element is not very clear. Since it lacks the formal element it takes its strength from placement value or syntactic criterion. Even to base this criterion on that the English grammarians hesitated very much. They doubted if English had a syntactical structure at all. Then they came to think that there were very few norms of structure. This happened because it was difficult to make a distinction between the formal and the sytactical whereas the difference between the formal syntactical on the one hand and the semantic on the other was very obvious. In the history of English grammar we see a certain pattern. For the sake of brevity we shall make here references to patterns of the noun only. The years after the names will show the use of the criteria all at the same period.

Formal	Semantic	Syntactic
Mark Lwis 1620	Aicken 1693	Bulloker 1586
Thomas Lye 1671	Lowe 1737	Gialon Brightland 1711

The formal tradition was insisted upon as far as the verb is concerned by Greaves, Butler Jonson Biloker and Cooper whereas the mixed cirterion by Beattie and the semantic by Joshna Poole (1646). They followed certain classical traditions, Linacre made even a distinction between the Formal and semantic criterion is his Progymnasmata Grammaticus 1512(?) Ian Michail

says that those who defined with formal criteria were only a minority among the English yet they were a powerful minority.[15]

Those who advocate the formal criteria have always been saying that the notional criteria cannot be understood by young learners of grammar. Mark Lewis, James Greenwood and Henry Bullen are some famous names. The child cannot see what is meant by a concept as in the formula the noun is the name of a thing or thought or feeling whereas the child can have an easy tool if it is given a formal criteria such as a noun takes a plural form of-s or a possessive from of -,s. We should notice that the set of criteria we call the formal has a strong learning value. This value is realized only in the context of the naturae of the particular language. It was because English did not have a character conducive lo formal criterion as a noninflected language it did not occur to them that the formal value was more valuable then the conceptual in grammar. The development of old English through the middle English to the modern is one of the shedding of the inflexion and this must have also resisted the recogni-tion of the usefulness of the formal criteria.

Otto Jesperson expresses his view on the teaching convenience in the following words: The trained grammarian knows whether a given word is an adjective or a verb not by referring to such definitions but in practically the same way in which we all on seeing an animal know whether it is a cow or a cat, and children can learn it much as sufficient number of specimen and having their attention drawn successively now to this now to that distinguishing feature.[16] Jesperson thinks ordinary definitions say so little though they seem to say so much.

What we see in Tolkāppiyam is neatly a formal criterion branching into a morphological consideration and a placement value with adequate description of semantic conditions where there is a need.

Tolkāppiyam tells us in verse 70 that the word that takes the case marker is the noun. The way he defines a noun is

by way of description and this description is illustrative of its operational formal nature. Let us see how he makes his description in his verses.

Morphological Criterion : 'It is said that these case markers listed above are suffixed to the noun without any change in their value' V. 70.

Functional Criterion : 'There are six ways in which the noun is predicated'. V. 67.

Placement Syntacetic Criterion : 'Among them the bare noun appears in the subjective case' V. 66.

Thus the Grammarian finds it comfortable to speak on the definition of the nouns in the chapter on the cases. The insistence on the formal criteria, one may say is very common with him that the attempt to group description into the various chapters is based on an understanding of the formal criteria. He does not want to speak on the definition of nouns in his chapter on the nouns but places it in the chapter on the case markers which are the instruments of morphological changes. In the latter chapter he gives a series of dissection of the noun such as the classes of nouns, gender divisions and then an enumeration of the different classes of nouns. All these are typically of the formal criterion. A presentation of a list of the items used in almost all the places shows that the technique is operational and not concept formation. Never once a noun or a verb is defind with the help of the frame — is the name of a — or — .

The Grammerian defines the verb as the word that does not take the case marker but shows tense. One will also be able to see that the formal criteria of the verb, in its function and syntax are adequatly described. In the midst of over-whelming operational pointers, the semantic condition is also adequately indicated. The Grammarian says: "All words convey meaning" (V.152) "Meaning is indicated directly and by suggestion." (V. 154) But he caustiously says that "words reveal the object that is indicated and their grammatical form." (V. 153)

What happens is an astonishing reinforcement of the linguistic situation. A lingustic unit like a phoneme or a morpheme becomes a viable unit only on the basis that it goes to make a semantically meaningful unit and yet grammar is not a study of or a list of description of meaning. The same very reasonable proportions are kept in the very science of exposition of grammar. As the Semantic description favours notional tags and the formal criteria are operational the very method of linguistic understanding helps to reinforce the method of description.

Let us now take another pair of binary opposition namely Bound Morphemes and Free Morphemes. The very first verse of the chapter on the Bound Morpheme gives a morphological descrption as it says :

Bound Morphemes occur along with nouns and verbs; they do not occur independently. (244) The very next verse begins like this: On examination they show the following functions (245) and then the seven functions are enumerated. The Third verse again shows the placement and syntax criteria. It says: It is said that it may appear in all these ways following or preceeding words, deforming its endings and taking with it another of its kind. The semantic conditions are then enumerated.

The Free Morphemes are stems and semantemes. A descriptive method or an operational method is employed again. The very first line of the first verse of this chapter tells us that what follows is a description of a free morpheme (292). It is curious enough to see that the operational method of contrasting pairs is used here to asses the meaning when it says; if a more frequently used word is added to it in the place of the less frequently used one— every word will show its specific meaning. Its operation is again shown in the last but one concluding verse which says; It is not in the nature of this morpheme to be divided into meaningful units. (389)

The very first verse of the chapter on the vocative without trying to define notionally that the vocative is used to call some one or something, says, We can say that what is known as the

vocative goes with the particular noun distinctly. (115) After this operational condition what he proposes in the second verse is an enumeration of the vocative particles. He says ; What they are is laid down here for our understanding. (116)

The manner in which the grammarian handles linguistic materials reminds one of certain developments in the field of Sociology which occured at a much later period. Sociology was once taken to mean philosophical reflection on the life of human brings in company. It was Auguste Comte (1798-1857) who recognizably for the first time told us that the methods of experimental sciences should be employed in Sociology. Therefore he called sociology science one hundred and fifty years ago. This idea of a social science came from the notion of natural order which is supposed to be at the basis of social changes. Comte's methods were known as positive methods of observation experimentation and comparison[17]. These three norms popularized by Comte showed clearly that the facts of Human Sociological life are to be taken for observation, experiment and comparison as THINGS. Thus the methodology of Sociology grew to become experimental. By the time Durkheim (1858-1917) came to be the leading light of sociology, the insistence was very much on the need for taking social facts as things. He said,[18]. "Things include all objects of knowledge that cannot be conceived by purely mental activity, those that require for their conception data from outside the mind, from observations and experiment, those which are built up from the more external and immediately accessible characteristics to the less visible and more profound." This Sociologist says that facts must be approached by observation sufficiently external and visible. Without going deep into the contributions made by Levi Strauss and Roland Barthes to our understanding it is easy to realise the fact that Linguistics is the replica of social experimentation, as this has become an acceptable fact to-day. We may say that Sociology has adopted the methods of experimentations as in Linguistics. Some schools of Linguists insisted we know very much on the need to take linguistic facts as things. It is a parallel development. The structuralists based their approach

on this foundation[19]. It is in this manner Tolkāppiyam always attempts an operationai approach as different trom a notional approach.

This operational approach we see employed in Tolkāppiyam has indeed a deeper scientific basis. This operational approach is associated with certain approaches in Physics. These are championed by Percy W. Bridgman,[20] Arthur S. Eddington[21] and George A. Lundberg[22] From *The Logic of Modern Physics* by Bridgman through Eddington's *The Nature of the Physical World* to Lundburg's *Foundations of Sociology* the circuit from Science to Sociology is complete. These philosophers of science point out that before science can deal with the problems, concepts must be replaced by some sort of operation[23]. If we define mass as a quantity of matter it is a mere pious opinion but it must be measured by means of pointer reading. Intelligence is what an IQ test measures. Measurement is a way of defining. They point out that the proper definition of a concept does not go in terms of properties but in terms of operation. The author of Tolkāppiyam has made use of this scientific approach in the exposition of grammar.

Those who did not understand the Basic approach of this grammarian had made strong pronouncements against him and have sought a criterion for comparision and contrast quite alien to the genius of Tolkāppiyam. P. S. Subrahmanya Sastiri[24] tells us that the noun is a word denoting a person or an object; Tolkāppiyam does not include an abstract noun in his definition of nouns. Sastiri Complains[25] that Tolkāppiyam has not clearly defined what a noun is; He says it simply explains it. The same thing is said about the definition of the verb. The definition that the verb does not take the case marker and denotes tense, according to Sastiri is not the definition of the verb though commentators take it to be so. Sastiri says[26] the word vinai itself shows the definition. He says that the way Tolkāppiyam defines a verb is defective and this defect is also noted by the commentator, the authour of Illakana Vilakam and this defect Sastiri thinks is owing to the mistaken notion that this particular verse gives the definition. In the

same manner, Sastiri tells us that all the commentators mistake the first verse in the chapter on the Free Morphemes for a definition. Very surprisingly Tolkāppiyam tells us in this verse (292) that here is a description of the free morphemes. Sastiri's misunderstanding brings to light one crucial question in the matter of basic scientific approaches. The operational approach we have been describing is basicaly an attitude of a school in defining. The whole system is embodied in the way a definition is first made. It discards notional attempts but encourages descriptive methods. A true definition, operationally is a description. The method of enumeration and listing, Tolkāppiyam uses invariably shows how insistently he uses the operational definition approach for scientific study. This deep consciousness has made this grammarian use throughout an operational definition and also describe it so.

The implications of this scientific Archetype in Tolkāppiyam are many which are both positive and negative.

Trying to base Tolkāppiyam on grammatical theories that have a different base of philosophical or notional criterion must be discouraged. Be it Sanskrit or western sourees we cannot blindly say this grammar seems to base its rules on alien sources. There have been attempts to do this all along. Similarities are not contributions. To confuse these two is a crime. But more serious crimes have been committed in this area. Sanskrit concepts are shown to be the sources of concepts in Tolkāppiyam without any historical evidence just because there are apparent similarities. Comparative grammar must have a sound basis like the one in comparative literature. In making this wrong attempt people forget the fact that even internal evidences may show that the two sets of concepts have different bases, if one approaches the causes without any prejudice.

The phrase alien sources used here has a larger connotation. The scientific, operational, pragmatic approach used in Tolkāppiyam one may infer arose from the down to earth life led by the people in the centuries when the basic literatures referred to in Tolkāppiyam quite consciously were written. People of that time may not have developed many philosophical

notions about gods and spirits. A literature of the rich soil of the country without many notions of destiny or divine forces as found in the glorious cankam Literature must have been the spring board of this grammatical analyses. This data must have been accounted for both quantitativlly and qualitatively in these theories. Therefore all grammar theories that are adduced to be the basis or source of the grammar theories of Tolkāppiyam are to be looked at in great suspicion, if these are not on the same footing. To claim philosophical glory, other worldly background for one source and then say Tolkāppiyam is founded on this is to make a wrong note altogether.

One positive benefit of studying Tolkāppiyam, of learning this great grammar comprehending it, analysing it, applying it sythesising it and evaluating will be to imbibe a scientific spirit which will pave the way for a meaningful study of grammar criticism and literature.

The scientific archetype which is shown to have a strong learning bias is the principal strength of Tolkāppiyam.

Foot Notes

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Vocation of the Tamils as revealed in Sangam Literature

Dr. S. SASIVALLI

"During Sangam age and ever afterwards, agriculture was the main vocation of the Tamils. As forming was considered basic to all other occupotions, it was treated as the foremost and the most important of all occupations".

The Sangam literature can be considered as a more reliable source of history of Tamils than the literature of any other age. The poets of Sangam age gave themselves upto a spontaneous and natural type of poetry which was by its nature free from exaggerations or unnatural hyberbole.

The Sangam literature consists of Ettu.t.tokai, the eight anthologies and the Pattu-p-pāttu, the ten idylls. These Sangam works are classified into Akam and Puram works. Akam treats of love themes where as Puram deals with themes other than love and is objective in nature. It includes war, justice, charity, Government etc., From the works of Sangam we find that in the Tamil country social divisions were based on vocations which had close relationship with the natural divisions of the land.

The Five Regions of Tamilagam

The Tamils divided the land into five natural regions namely the Kuriñci, the mountainous region; mullai, the forest land; Marutam, the fertile land; Palai, the dry land; and Neytal, the coastal region. The cheif occupation of the Kuriñci region was hnting, and people of this land were called vēṭṭuvar, Kuṟavar the hunters. In the forest area of Mullai the people were mostly cowherds and they went by names Āyar, Iṭaiyar and Kōvalar. Cows and buffaloes were maintained by the shepherds, and the women of the household helped them in tending the cattle. Milk and milk-products were sold by them in barter.

The people of fertile cultivable tract, the Marutam, took to agriculture and were called Ulavar. Paddy, sugarcane, plantain, jack and other fruit trees and cotton were cultivated. The various processess of agriculture like planting, harvesting and storing of paddy were carried out by them systematically. Some people of the Marutam who cultivated the sugarcane crop were also prosperous. On the otherhand it is noteworthy that some of the people of Marutam took to fishing and were called pānar.

The people of the coastal region on the other hand carried on fishing in the deep sea and the rivers and they were called 'Paratavar'. They earned their livelihood by selling fish and salt which were the principal products of their region.

The people who lived in the Palai or the sandy region could carry on no other occupation but high way robbery on those who dared to pass through that desert tract on various errands and this type of people were called Maravar. It is evident from the above des.ription that the natural regions of the land determined the occupations of the people.

Vocations of the Sangam Tamils

The Maturai-k-kanci, one of the classics of Sangam Age depicts the picture of prosperity rooted in the fertility of agriculture and expansion of trade. It also refers to these two as the main sources of general prosperity of the people during the period.

(In which live wealthy prosperous men engaged
In two pursuits esteemed above all else. Matu: 120-21)

Agriculture

From the time immemorial farming has been an occupation in Tamilagam. Tolkappiyam is the first Tamil work which speaks of agriculture. The formers of those days were called 'Veḷāṉ-Māntar'. Their primary duty was to raise crops and produce good yielding. This is stated in the following lines of Tolkappiyam as:

Velan Mantar are to farm and
feast, not anything else'. (Tol : Porul : Marapu : 81)

The rudimentary type of cultivation of the soil seems to have commenced much earlier than the Sangam period. During Sangam age and ever afterwards, agriculture was the main vocation of the Tamils. The cultivation of the soil began in the Kurinci region, were through nature's bounty people reared wild forms of paddy and the other cereals with minimum effort. Gradually improved methods of cultivation appeared and agriculture had become a well developed occupation during Sangam age. Several poets of Sangam works have sung on the nobility of the agricultural profession. As forming was considered basic to all other occupations, it was treated as the foremost the most importaut of all occupations. The kings of the Sangam age believed that their prime responsibility was to ensure agricultural prosperity and help cultivation. Whenever the kings forgot to discharge their duties, the poets used to remind them of their duty (Puram: 18: 27-30).

The cultivable lands were divided into two types viz. the irrigated nancey (wet lands) and Puncey (dry lands). It is during this period that the farmers followed the important practice of ploughing, manuring, weeding, irrigating and protecting the products of the land. They aimed at producing as many as thousand kalams of paddy in a single veli of land, ie. fourteen tonnes of paddy per hectare (Akam : 1).

Several varieties of paddy were cultivated. The names of which are known from sangam works viz. Vennel, Ivananel, tōrai, cennel, and putu nel. Among these first three varieties were mainly found in mountains region and the last two were cultivated in the fertile plains (Puram 61 ; Pat : 12-14).

Ploughing the land was the initial process which preceded the cultivation. The ploughing of the paddy fields was done by plough-share fixed to a yoke drawn by bulls (Patirru. 19.17). The farmers gave importance to deep ploughing for fruitful cultivation. After ploughing, the farmers applied manure and levelled the land.

The cultivators knew the value of the quality of seeds for reaping high yields. So they used to select seeds of the proper variety. Sometimes the seeds were sworn in separate plots of land and after a prescribed period of time, the grown up plants were transplanted into the paddy field already ploughed, manured and seasoned for the crop (perum : 212). Proper attention was paid to the removal of weeds which would prevent the free growth of the crops.

The farmers irrigated their lands from rivers, tanks and wells. They took special care to locate the sources of water suitably. Water stored in tanks, reservoirs was utilised for irrigation. In Madurai-k-kanci there is a mention of rivers filling the tanks as they ran towards the eastern ocean (Madurai 245-49) and the Idyll Perumpanarru-p-patai speaks of tanks well bounded and safe (Perum 107-110). The people of the age knew how to divine the places where there was flow of water (Kurun : 224) and built wells. The farmers used a bullock-drawn contrivance called 'Kapilai' for baling out water from deep wells and operated contrivance called 'erram' for baling out water from shallow wells. Gardens and orchards in Kings palaces were irrigated mechanically from the wells known as 'Ilanci.'

From the time that the sown seeds had begun to sprout, care had to be taken against any harm befalling the crops. This responsibility was entrusted invariably to young girls. Numerous references are found in Sangam classics of Akam to these girls engaged in guarding the fields and driving away the parrots and other birds which clustered around the grain loaded crops. They used taṯṭai a rattling instrument and stone slings known as Kavaṉ to drive away the infesting birds. (Kurinci : 40-44, Puram 49 : 4 ; Ain : 215 : 3).

After the crops had become mature - the harvesting of corn followed. During this period a common practice was adopted by them to engage themselves in singing songs and beating drums for the purpose of making themselves cheerful and for driving away the birds and animals from the cultivated fields. Sickles and swords were used for harvesting. The grains were separated by thrashing the sheaths of corn on the ground. Following this,

buffaloes were made to tread the sheaths so that the remaining corns might be unloosened (Patir : 71 : 4) Porunayarrup-patai gives us a picture of harvest as follows :

"The farmers with their sickles bend to reap
their harvests, pile rice sheaves in immense stacks,
Heap daily grains threshed out that look like hills,
And store it in large bins enclosed in straw.
That stand ranged close without a space between." (1)
(291-95)

The agricultural implements used during Sangam age were the plough 'kalappai' (Perum 180), the plough share'Yer' (puram 33) the levelling tools 'talampu', the water balers like ampi, kiḻar and ērram, a curved blade fixed to a handle for reaping the corns and contrivances like taṭṭai, kuḷir and Kavaṇ to drive away bird pests.

The cultivation of paddy was the most popular and principal crop during Sangam age. Other grains like 'varaku' and tiṉai were also cultivated in large quantity. Besides, black gram, horse gram, sugarcane, beans (avarai) were some of the other important crops cultivated. Cotton plants, coconut, plantain and tamarind trees, arecanut palms as well as ginger, pepper were grown in abundance during this period.

As farming was considered as basic to all other occupations, the farmers, the 'velalar' enjoyed a great social status. Most of the farmers were cultivators of their own small plots of land. They were called Ulavar. Yerin valnar and Kalamar. Apart from, them there was a class of landlords who employed others to work on their fields. They were known as Uluvittanpar. The most important among these landlords were the 'Velir' or the chieftains of the agricultural population. From this we can assume that the ownership and cultivation of paddyfields were supposed to confer a respectable social status during Sangam age.

(1) p. 75 pattupattu, Tr. J.V. Chelliah.

Allied Profession, Cattle Breading

The basic support for agriculture was provided by the cattle. For the purpose of ploughing the land, for levelling it later and for treading the sheaths of corn bulls and buffaloes were used. Though the breading of cattle was connected with agriculture, the rearing of cattle was done by a separate class of people who lived in mullai, the pastoral region from the earliest period of the Sangam age. Those connected with the tending of cattle were known as Ayar, Itaiyar, and Kovalar (puram: 390:1, Akam: 14:7, Kurun, 117:3; Kali 101:16). These terms appear to have been used to designate both the cowherds and shepherds during the Sangam age.

Dairy-farming was their principal occupation and means of living. They took their cattle for grazing them on pastures far away from the cultivated lands. The women of this region helped in tending the cattle. Besides milking the cows and she buffaloes, they prepared milk-products like curd, butter and ghee. The womenfolk took these milk-products to adjoining places for sale. In fact the cowherd class formed an important element in the rural economy of the Tamil country. It is noteworthy to mention that there were some chieftains and poets belonging traditionally to the class of herdsmen. Ay Antiran and Ay Eyinan were powerful chieftains and Itaiyan Netunkiranar, Itaiyan Centanar and Itaikkatanar were some of the poets of the Sangam Age.

Industry

Sangam poems depict various types of industrial workmen like the weaver, the carpenter, the black-smith, the gold-smith and the potter etc, in the same works their workmanship was also beautifully pictured.

Weaving

The weaving industry in ancient Tamilagam was however a domestic industry in which all the members of the family took part. The workmanship of the weaver was of a high order and fine fabrics were made. Some of the classic of Sangam Age compare them to the falling cascade, the vapour of milk,

the slough of a snake and to the smoke. From these comparisons it is clear that the finess of texture was aimed at and achieved.

The Weavers of Sengam Age were good in the art of weaving cotton and silk cloths. It is evident from references in the Sangam classics like Madurai-k-kanci, pattina-p-palai and Purananuru that many kinds of cotton and cotton goods both in white and colour were made. Purananuru refers to carded cotton of fine variety (puram 125) The embroidery work of floral designs on fine clothes must be a superb workmanship of the Sangam Tamil weavers. The embroidery work was done often to decorate the dress.

Example: 'Nīlak-kaccai pūvārāṭai', Puram 274:1. Fine silk cloth too was woven and well designed borders were made for the dresses.

Ex. Koṭṭak Karaiya paṭṭutai - Poruna : 155

Spinning of cotton yarn was undertaken with care. There are several references to women working at the spinning wheel and Narrinai mentions that women who had lost their husbands 'āḷil peṇṭir' particularly engaged themselves in this work. (Nar: 353). A poem in Purananuru depicts how women continued to spin during nights patiently under the faint light of a lamp (Puram 327:5). Such women engaged in the spinning of cotton yarn were called 'Paruttippeṇṭir' (Puram 125:1; 326:5).

In the course of time the technique of stitching fabrics of of silk and cotton was well developed. Poranarāṟṟup-paṭai (81) speaks of a separte class of tailors.

Carpentry

Wood-work was well developed during the Sangam age. Carpenters had acquird a remarkable measure of skill in their art. Several types of tools, weapons, utensils, furniture like cots, toys, plough share, boats, ships and chariots are said to have been made. A poem of purananuru tells us that a skilled carpenter could construct eight chariots within a course of a single day.

(87:3). The paṭṭinapalai (30-32) describes that the boat's frontage was finished off with the figure of horse head. we can say that ship-building industry had formed a certain measure of development early in sangam age itself. There were all kinds of vessels beginning from catamaran, a raft to big ocean-going ships with mast and sail. There is a clear mention of large ships (puram : 13) with tall flags flying from their masts (pat : 173-5, Madu : 79). Here we have to mention that the influence of foreign contract had much to do with the excellence gained by the carpenters, sculptors, architects and painters of Sangam works like Mullaip-pattu, Patirrup-pattu and Netunal-vāṭai.

Blacksmith The vocation black-smith was in great-demand, often in conjunction with that of Carpenter. The black-smith was called Kollan and he used bellows and anvil as his vocational aids. The Purananuru speaks of the repairing and making weapons of war in the smithy which was called as Ulaikkalam, Koṟṟurai or Kolkurai (Puram 95 : 5). This may be described as an industrial factory of those days.

Pottery The art of pottery is one of the village crafts developped for the common good of the people. The potters were known as Kuyavar, Veṭkōvar and they made mud vessels like Kutam, mantai, and tacumpu (Akam. 86) and had them burnt in kilns (Akam. 308). In Sangam literature there are references to tāḻi (puram. 256 : 5) for burial purposes.

Painting The ancient Tamils took great interest in expressing their aesthetic experience in the form of painting. The word painting is refered to in Sangam classics as ovu, ovam and oviyam (Madu : 365; Akam : 5, Netu : 147) and expert painters are referred as 'Kaṇṇuḷ vinaiññar' in Maduraik-kanchi. The poet Kunramputanar describes in paripatal the elutelil ampalam (picture gallery) as the training centre of cupid the God of love. From this, the poet likes to impress the readers that the hall was a centre of attraction and a visual feast for the spectators.

Sculpture : Like painting, sculpture is one of the visual art and there are references in Sangam literature to the existence of sculpture. The Tamils also paid considerable attention as revealed by the poets to the various types of architectural constructions during the Sangam period. Specific words like 'panmannallil' mentioned in 'Madurai-k-kanci' refer to the high artistic skill attained by the ancient Tamils in the field of architecture. The building art reached a very high state of perfection during Sangam Age. The construction of buildings for example light-house which rose to a considerable height is found mentioned in the Sangam work Perumpanarru-p-patai. Moats were constructed for the purpose of defensive warfare. A vivid description of a palace pictured in the Idyll'Netunalvāṭai' reveals the enormous care taken to construct the palace on systematic lines as follows :

> "Then architects with care compute with tapes,
> And note the quarters where the Gods reside.
> They mansions build befitting noted kings,
> And raise around then ramparts strong and high."
> (76-79) (1)

The technique of lathe work and engraving is applied in the art of sculpture. The well fitted artistic had mentioned in the work quoted above is a good example of lathe workmanship, chiselling and engraving (Netu : 115-123).

Besides those who are engaged in large numbers in occu pations like agriculture, weaving and carpentry, there were several classes of people occupied in less prominent vocations but which were useful to the society.

For instance the washermen formed another class of professional workers. They were called Kāḻiyar' (Akam. 89) and it is found that the washing of clothes was done with a king of sand. The washed clothes were starched well. In the

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1. P. 179. Pattupattu. Tr. J. V. Chelliah.

process of washing and starching the clothes, the 'pulatti,' the wife of washerman rendered her co-operation (Akam : 387; Nar : 90)

The Kuvalar's occupation was the digging of wells with the aid of an instrument 'Kaṉicci' resembling the pick-axe. (Akam : 21 : 21-3).

Workers on leather are found mentioned in some of the poems of Sangam Age. Most of the references are about tōl the shields made of Leather used in war. The (umaṉar) salt vendors, soldiers, shepherds and the hunters are said to have used sandals or foot-wear made of leather.

Among those who did machinical work mention may be made of the Karōṭan who was occupied in making the whet-stone and weapons were sharpened by them (Akam : 1 : 5).

There was a group of people called oil mongers who extracted oil from the gingelly (Nar : 328 : 8).

Toddy tapping was an important occupation. Commonly toddy was extracted out of grains like tinai and paddy. Some were engaged in brewing liquor. The womenfolk of this class used to sell the liquor (Malai : 459).

There were watchmen to guard places and highways. Some persons were employed to measure time with the help of a water-clock (Akam: 43 : 6). Some were trained in controlling elephants. They were called 'Tōṭṭi' and Pākaṉ (Puram : 14 : 3, Akam 286).

Some people were engaged in military service. From the Sangam classics it is learnt that the Maḻavar, Maḷḷar, Maravar formed the martial classes recruitted for military service. Sometimes there were others like Iyavar, Vayavar the drum, employed for discharging lighter duties connected with war.

As observed from Sangam classics, there were others who engaged themselves in avocations like hunting, fishing

etc., womenfolk helped men in the occupations like agriculture, weaving, cattle breeding and they went out for selling salt, fish, milk, milk-products, flowers, eatables and todday.

Trade and Commerce

"It has been truly said that commerce begins where civilization begins. Although the term is often used in a wider and less precise sense, commerce means primarily the exchange of commodities conducted on a wider scale involving transportation over considerable distance. Commerce and trade are in this sense often used interchangeably, but the former stresses the mercantile or free enterprise aspect of these activities, their profit-seeking and risk-taking character, while the latter points more to the physical character of the services performed."[1]

Trade both internal and external had developed considerably from early times. There are several references of the development of trade during the Sangam period, Literary evidences are the source to understand the internal trade to Sangam Tamils whereas the accounts of foreign writers explain the external trade vividly.

Internal Trade:- TheSangam Tamils who lived in the different regions of land exchanged their goods. The people used carts, mules & Oxen for transporting their goods. The salt vendors (Umanar) used carts drawn by buffaloes (Akam. 17). The paths between villages were arduous, moreover passing through them was dangerous on account of decoity from wayside robbers. So the traders used to go to various villages in groups. The Tamil caravans are referred to in Sangam works as 'Vāṇika-c-cāttu' (Akam: 391 : 10)

It is notable that they used small vessels like Ōṭam, pahri, puṇai, ampi and timil for internal trade. (Akam: 101 : 12; Pat: 30; Ciru : 117; AiN : 98 : 2; Nar : 74 : 2; Puram : 24 : 4). These references found in the Sangam classics indicate that traffic through back-waters and streams must have been done for the transportation of commodities.

1. P. 142. Ency - Brit Vol. 6.

Exchange of essentials on a barter basis was the primitive pattern and common on ancient Tamilagam. Since trade of the time was conducted through barter, the salt vendours returned to their places with the wares of the neighbourhood loaded in the carts. Paddy and salt became the principal commodities of trade. Dr. K.K. Pillay points out that "paddy and salt were given as wages in early times. The suggestion has been rightly made that the terms 'Kūli' and 'compalam' are derived from 'Kulam' and 'alam' meaning food grains and salt respectively.[1] We have references in Akananuru that paddy and salt were measured at equal values.

'Nellum Vuppum nērē ūrir kiḷḷirō (Akam : 390) Honey, ghee, and edible roots were exchanged for fish and toddy. Other things like venison, fish, fishoil, mutton, arrack and curd were also exchanged in barter.

There were markers called Aṅkāṭi in the village and towns of Tamilagam. There were 'Nāḷaṅkāṭi' daytime bazaar as distinguished from allaṅkāṭi evening or night bazaar. (Akam : 93 : 10). The term āvaṇam was also used to denote the market place (Pat: 158) Flags are said to have been flying the front of the shops. Some goods were sold even on streets, for example, Paḷayar makaḷir sold the flowers they had collected in bamboo pipes in the streets of village. Another poem of Akananuru refers to a pāṇmakaḷ selling vāḷai fish (Akam: 126). The Idyll Maduraik-kanci provides a notable description of the busy transactions in the bazaar (511-521). From the evidence available in the literary works of the age, it may be inferred that the traders were fair and just in their dealings (Pat. 209-10). Lending commodities for a specified period was described as 'Kuriyetirppai'in Purananuru (163: 4)

The commercial relationship of the Tamils with the people of other countries are mentioned in some of the Sangam classics. There were huge ships called Nāvāy, vaṅkam or Kalam. The ships had flags tied to their masts (Akam:110). There were sails in the ships and they could be used on Sea voyages only when there was strong wind (Akam: 255). Powerful lights glowing on the top of tall houses served as lighthouses, and helped the

1 P. 240. A Social History of the Tamils. Vol. 1.

sailors during nights to spot out the ports (Akam : 255) As the Tamils sailed to distant lands across the sea, foreigners come to South India for purposes of trade and returned after buying the valuable articles. Generally the word 'Yavanar' was used by the Sangam Tamils to indicate the foreigners. A poem in 'Akananuru' refers to the yavanas who came in their ship to cera port 'Musuri' and returned after buying pepper in exchange for gold (Akam: 149). We learn from sources of paṭṭinappālai, that horses from the west, food-stuffs from Ceylon and Burma, camphor and perfumery goods from China and South Asia were the chief articles of import, while gold from Kongu, pearls from the Pandiayan sea, Sandal from the west coast and pepper from Coorg were the chief articles of trade with South India (185-93). A specific information is available in Pattinappalai, where mention is made of the customs officials affixing the 'Tiger seal' of the Chola King on the bags of cargo (134-36). A general picture of sea-trade is described beautifully, in the above said poem as follows :

"As, when the rainy Season comes,
The copious waters drawn by clouds
Are shed on mountain tops and these
In turn flow down and fill the sea,
So goods flow in from sea to land,
And also flow from land to Sea." (141-46) (1)

The classics of the Sangam period mention prominently only the ports of Musuri, Puhar, Korkkai, the three great ports of the three great kings of the time. We also find references to the following groups which were all occupation-oriented divisions namely, aḷavar, āyar, Iṭaiyar, Iyavar, Uḷavar, Umanar, Eyinar, Kammiyar, Kaḷamar, Kāḷiyar, Kuyavar, Kūttar, Kallar, Kocar, taccar, tuṭiyar, Paratavar, Paraiyar, Pākar, Pāṇar, Pulaiyar, Porunar, Maravar, Malavar, Vanikar.

It is remarkable that we note that quite a number of these worksmen and traders were poets and philosophers. Tamil society

(1) P. 37 Pattu pattu Tr. J.V. Chelliah.

during the Sangam Age was rigidly bound by caste based on vocation and the profession was handed down from father to son. This led to progress of in various industries and trade and made these men skilled in their own vocations.

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Vocation of the Tamils is revealed in Ethics

Dr. P. R. NARASIMHAN

" The Tamils were aware of the relationship of ethics with physical sciences, biology, psychology, logic, aesthetics, politics, economics, education and metaphysics. They never held ethics as a mere theoritical study. They considered it as a practical philosophy."

According to philology, the term 'Ethics' is derived from the Latin word 'Ethos', which means 'character', 'customs', 'usage' or 'habits'. Ethics is also called 'Moral Philosophy'. The word moral is a derivative for the Latin word 'mores' meaning 'conventions', 'customs' or 'habits'. Ethics thus literally means the science of character. The character of a man finds its expression in and through his conduct. The conduct of a man springs out of, and expresses his character. Conduct is the mirror of character. Ethics discusses men's voluntary actions, their habits and customs, or in other words, their characters.

Ethics not only studies men's characters, but it also judges their actions as 'right' or 'wrong', 'good' or 'bad'. These notions are meaningless without any reference to the idea of 'highest good'. Men's actions are right if they are conducive to the highest good. Thus Ethics is sometimes defined as " an enquiry into the nature of the ultimate end of human action—the highest good of man—and the means of attaining it'. The highest good is always the ideal involved in human life or some standard of judgment by reference to which one is able to say that one type of conduct is better than another. As Ethics discusses human conduct with reference to that highest standard, it is defined as " a normative science of the conduct of human beings living in societies ".

In short it may be said that Ethics seeks to answer two questions—What is to be regarded as right and wrong? and Why should people do what is right and not do what is wrong? In other words, the questions are—what is the content of morality? and what is the sanction for morality?

The people of the Tamil Nadu were quite familiar with these problems of ethics from the earliest stages of their culture and civilization. J. S. Mackenzie states that 'the beginnings of reflective thought on ethical problems are to be found in India, China and Persia, and that it took definite shape in Greece"[1] Even a casual study of the Tamil literature will show that the Tamils had definite ethical ideals and practice long before the moral and physical philosophers of Greece. It is usually said that the ancient Greeks stood for moral institutions, the Jews for legal institutions and the Romans for social institutions. But the ancient Tamils who lived a life of love and chivalry were at once masters of ethics, jurisprudence and sociology.

The Tamils looked upon ethics as a description of the moral sense in man ; as the study of the supreme good ; as a normative science dealing with the standards of moral life and moral ideals. But they never held it as a mere theoritical study. They considered it as a practical philosophy. The Tamils were also aware of the relationship of ethics with physical sciences, biology, psychology, logic, aesthetics, politics economics, education and metaphysics. The ethics of the Tamils deals with almost all topics that are usually found in an ethical text. Form, content, moral sanctions, moral maxims and observations of the modern world were not beyond the imagination of the Tamils. They were fully aware of the significance and part played by conscience in moral matters.

A general survey of the Tamil literature will show that starting from Tolkappiam, the earliest available Tamil literature to the present day treatises on various aspects contain a little amount of ethics in them. The Tamil writters invariabley had made it a point to refer to some morals in their work. Among the early Tamil literature, the world renowned Tirukkural is the

magnum opus of Tamil ethics. The other works-Pathinenkilk-kanakku, Patthuppattu, Ettutthokai, the five kappiyas' the twin epics, the puranas and other works-though extol some morals in each of them, they are not deemed as purely ethical, The following works—Ulakaneethi, Atthichudi, Konrai vendan, Moothurai, Nalvali, Neethi venba, Vetriverkai, Nanneri, Araneric-charam and Neethi neri vilakkam are out and out ethical. Hense these works are taken into consideration for the present purpose of study—'Vocation of the Tamils as revealed in Ethics'.

The first of these ethical texts Ulakaneethi was composed by Ulakanathan. It is revealed from the last verse of the work. It consists of 14 stanzas including the invocatory verse. Atthichudi, Konrai vendan, Moothurai and Nalvali are the works of Avvaiyar, the great Tamil bard. Atthichudi and Konrai vendan contain 108 and 91 sayings respectively exclu-ding the invocations. They are arranged in the order of the Tamil alphabet and hense they have been fittingly called 'The Golden Alphabet of the Tamils'. Moothurai consists of 31 stanzas and Nalvali 41 stanzas both including one invocatory verse. Neethi venba which consists of 101 venba metres may probably be a compilation by some unknown person as it exhibits both early and modern trends of poetry. Verriverkai is a work of 85 stanzas of different meters by Athiveerarama Pandiyan who is said to belong either 12th or 15th century A. D. Turaimangalam Sivaprakasa Swamigal is the author of Nanneri. It consists of 41 verses. Aranericcharam is a Jain work in Tamil by a Jain called Munaipadiyar. This work consists of 225 verses. Neethineri vilakkam consisting of 102 verses is a work of Kumaraguruparar.

According to the Tamil ethics conduct is the whole of life. Ethical works in Tamil deal with ethics not only as the study of what is right or good in conduct, but also as the law giving science dealing with the problems of 'ought'. Thus, the moral ideal is sometimes regarded as a rule to which conduct has to conform and sometimes as an end towards which conduct has to be directed. Moreover the Tamil ethics did not have a double

standard of morality — one for the individual and one for the state. Politics is seldom separated from ethics in Tamil. In this way the Tamil ethics mentions vocations which conform and vocations which do not conform to the moral ideal. They form in brief the 'do's and 'don't do's' in vocation.

Vocation means profession or special aptitude for a profession or a means of living or livelihood. The Tamil ethics states various vocations as the proper means of earning as they conform to the moral ideal and certain others as improper and condemn them. Under the first category the Tamil ethics mentions agriculture, medical, administration, trade, building art, shipping, gold and blacksmithy, pottery, etc., The second category includes begging, gambling, prostitution, etc., Not all these vocations are prescribed in detail in the ethical texts. Some of them have to be inferred from the occurrence of words related to them. Thus by means of suggestive words it has to be concluded that such vocations were prevalent during that time·

Agriculture

Except Ulaganeethi and Neethineri Vilakkam, all the other ethical texts state agriculture as the most important vocation of the Tamils. Many details about this vocation are furnished in them. Avviyar's Atthichudi directs to sow in due season (22), and to grow rice as an independent crop (71) and to live by ploughing the field (81). Agriculture was mainly dependent upon rain in those times. The agriculturist know that rainfall will be preceded by lightning.[2] If rainfall fails, charity will shrunk.[3] Well water is the source of irrigation through canals while irrigating the crops of the field, the grass will also be benefitted.[4] No one irrigate the wild weeds.[5] Construction of dams to store the excess of water during floods was also common.[6]

About the excellence of agricultural living it is said that no other means of living is equal to agriculture. While there are defects in other vocations, agriculture is the best of livelihood.[7] If one desires an honest living he should resort to agriculture (K. V. 29). Wealth earned through agriculture will never fall short (K. V. 77). If one works sincerelly, he can attain a good

yield. Besides it increases his life, wealth, relatives., good name and fame.[8] At the same time one should not undertake various works. If he does so, they will not be done properly like the grain from which husk is removed will not germinate.[9] Similarly if one remains idle when there is plough and seed to work, he will be considered as chaff (V.V. 68). The agricultural yield will indicate one's religious merit (K.V. 59). Therefore it is pertained to the agriculturist to do their vocation (V. V. 7) Aranericharam mentions the stages in agriculture as sowing the seed, irrigating the field, removing the weeds, fertilizing the field in time, and harvesting.[10] Neethivenba states about the proper irrigation for the crop".

Administrative Vocations

Different administrative occupations are met within the Tamil ethics. The king of the country was known as Mannavar, Arasar, Vendan, Iraivan etc. Vetriverkai says that the duty of the rular is to rule the country according to the sceptre (V.V.5). It also mentions that king's army was consists of the Infantry, the cavalry, the elephantry and the chariotry (V. V. 7.) Moreover it states that the ruler should collect revenue in a proper way. If revenue was collected by crushing the citizen, such a ruler is no better than a chaff (V. V. 66). Neethinerivilakkam is the work dedicated to explain the characteristics of good rule and ruler. But the kingship is not a vocation of the people. Its features are not dealt within detail.

Ministership called amaichu or mantri was another vocation in association with the kingship. The characteristic feature of minister was predicting the events to the king (V. V. 8). Similarly the chief of the army known as Tantri, a vocation held by those who distinguished themselves by their valour and fearlessness (V. V. 9). The brahmin priests who took part in the administration of the country were expected to be of good character and their chief duty was to chant the vedas (V. V. 4 and K. V. 11). If they did not recite the four vedas, they will also considered as chaff (V. V. 65). The frequent use of the word pathar (chaff) indicates the predemoninant nature of agriculture and the high esteem it attained.

The vocation of warrior or soldier has been stated in many texts. Though it is said in general that one should not undertake warfare as one's vocation (A.C. - 86), and do not stand at the war front (A. C. 91), but once undertaken one should not turn back from the battle field (U. N. 5). Likewise one should not interfere when two persons fight with each other (U. N. 7). Konraivendan states that prolonged anger as the basic cause of war (K. V. 40). It also says that friendship of a warrior is similar to the sharp edged arrow. (K. V. 84). At the same time one should not boast of himself even if he was in possession of an arrow (K. V. 19). Vetriverkai considers a person as chaff if he gives away his weapons to others (V. V. 71). If a fully armed soldier runs away at the sight of the enemy and requests another to save him, he is similar to the cat's inability who could do nothing on perceiving the rats swallowing the grains.[12] A soldier who fights at the battle field even without a shield and other organs of army is like one who takes things on his head while sitting on an ass.[13] Neethineri vilakkam says that weapons are of no use to a coward (28). It also mentions internal, external and sex as three types of enemies.[14]

The servants or menial staff form another vocation of the Tamils. References to this vocation are meagre though it is an essential service. It is said that even if one undertakes the vocation of right watchman, he should sleep to some extent (K. V. 33). It is better to do agriculture than to do menial service (K. V. 46.) Nalvali says that one adopts various vocations like menial service, rulership, trade etc. Just to feed the belly.[15] Neethineri vilakkam refers to the vocation of royal gate keeper (48) and other small jobs as 'Kutreval' (12).

Medical and other Vocations

Some vocations are of social nature. The ethics of the Tamils refer to the following social vocations-medical, teaching, barber and washerman. Ulaganeethi mentions that both men and women were engaged in medical vocation. While men attended the general diseases, women attended the delivery cases. People should not abstain from giving them their wages.

They should be paid with gratitude. If not they will be dealt with seriously in future.[16] Konraivendan while refering to hospitality states that if one gets medicine like ambrosia, it should be taken along with guests.[17] Moothirai refers to the veterinary personal while stating that a person who cures the disease of a tiger will become its food one day.[18] Aranericcharam says that while applying medicine, the wounds should be cleaned. (98). Neethivenda states that unless one has faith in medicine, it will not give the desired effect (39). It also refers to the enmity that exists between medical personals (66). Neethinerivilakkam says that one should try to save life till the last moment (49). In another verse it refers to surgery (56). It also states the natures of medicines called 'Venkaram' and 'Cinki' (59).

Ulaganeethi indicates that the washerman and barber are dependent on people. The teacher imparts knowledge of all arts. Therefore they must be paid properly.[19] Aranericcharam includes the teacher and his wife along with the parents and the king who form the religious teachers (14). Neethivenba defines the washerman as one who bleeches the dust (28).

Art Vocations

The vocation of building construction which involves mason and carpenter as referred to in Tamil ethics. The terms 'Elunilaimadam' (V. V. 54) and 'Nedunagar' (V. V. 55) indicate the skill of masons and carpenters. Buildings constructed in those times without leaving vacant spaces (A. C. 18). Aranericcharam mentions about the wooden pillars, girdles and other wooden parts a house (209). It also mentions about the brick works and the instruments used (57). The works like 'Urthi' (126) acchu (168) and the 'yal', a musical instrument reveal the skill of carpenters. Moreover the term 'Kammian'[20], which means carpenter is found in Neethinerivilakkam.

The vocation of blacksmith was in demand for making the agricultural implements, weapons of warfare that were referred to in that vocation, and above all the constructions of various ships. The smithy itself was known as Ulaikkalan.[21]

The blacksmith instrument was 'Uli' is mentioned in the same text.

The numerous ornaments and jewels that are mentioned in the invocatory verses of the ethical texts and in describing the womenfolk indicates that therewere goldsmiths engaged in making them. Besides making ornaments the goldsmiths made golden pots[22] and golden flowers.[23] Neethi venba points to the existence of persons who could convert other metals into gold (69).

The vocation of clay pottery is mentioned in Moothurai (18 and 28). The pot, the potter, the clay and the wheel are mentioned in Aranericharam (217).

Trade

A particular social class called Vysya as engaged in trade is mentioned in Vetriverkai (7). They have to earn wealth as much as possible quickly. At the same time they have to enjoy life. If not they will be considered as chaff (V. V. 67). This vocation is said to be pertained to people due to their effort and past deeds.[24] The golden jewellers used balance and instruments of cutting.[25] The trading community had contacts with the foreign countiies. It is said that they earned wealth by means of sailing the sea (K. V. 39). It is stated that there were sailors. Without them the ships will not sail (K V. 39).

Aranericcharam refers to tailoring (177) and various types of dresses (17). If also mentions drama theater and Koothan (37) and Koothu (84). From this it can be inferred that there were persons who had undertaken Koothu as a profession. All these vocations conform to the moral ideal and hence the Tamil ethics profess them.

It is generally thought that the ancient Tamils lived a life of prosperity. But from the references found in the eithics of the Tamils it is known that atleast a section of the people were down trodden and hence had resorted to immortal acts as their livelihood. This necessitated the ethical writers to condemn

them. Stealing, killing, bearing false witness, begging and prostitution were considered as wrong actions ethically.

Ulaganeethi advice the people not to mingle with those who were engaged in stealing, killing and robbery (4, 6). Atthichudi instructs people to abstain from robbery (41). If wealth is accumulated through such means, it will be taken away by some other evil doers (K.V. 4). It defines a vow as not taking meat by means of killing (K.V. 58) Therefore, it demands people to avoid eating meat, killing and stealing (K.V. 63). Nalvali mentions lavish spending of wealth in the beginning as a cause for a person turning into a thief and wicked.[26] Vetriverkai treats a person as a chaff among the people who gives away his wealth (71). Atthichudi condemns even gambling as one which is to be forbidden (48).

It seems that even begging was resorted to as a vocation in those times as it is now. Begging was considered to be a mean act (A.C. 8). Therefore one should not abstain from giving to the beggars (A.C. 3). At the same time it is said that one should do moral acts eventhough he was a beggar (K.V. 9). If one's condition become more worse, he should not resort to begging (K.V. 85).

Nalvali considers people who give something to beggars as of highest birth (2). It also says that it is better to die than to live by means of begging (N.V. 14). Begging and similar other acts were undertaken because of the tyranny of the hungry stomach.[27] Vetriverkai states that even the beggars may become the rulers one day (52) and it is quite natural to beg for those who live in poverty (57).

With regard to the vocation of bearing false witness, it is said that people should not bear false witness and spend on disputes courts (U.N. 9, 10). The same view is expressed in Atthichudi (45, 108). Konrai venden says that gambling and disputes will make one suffer (31). Navali says that the ghosts will reach; a kind of herb called 'vellerukku' will germinate; a shrub called 'patalamooli' will form; Moodevi, opposite of the goddess of wealth and the snakes will enter into the house of

those who bear false witness.[28] These evil effects show how for this vocation is a condemded one. Unless this vocation was widely in practice, it could not have derives so much of attention.

The ethics of the Tamils condemn the institution of prostitution as both socially and morally evil. The form of 'Peruntinai' was man's relationship with 'Paratthaiyars' or harlots. It was looked down upon as unnatural and unbecoming of cultured men. This practice seems to have existed long back as it is found mentioned even in Tolkappiyam. Avvaiyar directs the people to turn back from the house of harlots (A.C. 95, K.V. 78). What is considered to be moral is not entering into the house of other's wife (K.V. 61). Vetriverkai says that the harlots attract men with their charming bodies (13). The relationship of harlots is similar to the act of entering into river with the crushing stone. It will deprive of one's wealth and lead him to poverty. How will suffer both at present and in future.[29] It is also said that knowledge, wealth and education will leave from one while a person learn towards harlots (N.V. 36). Such persons are useless to the society as the chaff in paddy. They will not have any purity (A.N.C. 116). Neethi venba says that if the harlots possess shyness, they will lose their livelihood. They were used to fight with each other without any cause (16).

It may be concluded that the Tamil ethics deals with the vocations that are to be adhered and the vocations which are to be desisted. This points out that the prevailing circumstances of that time made it necessary for the ethical writers to delve in these matters instead of delineating the path of liberation which is regarded as the goal of ethics.

Footnotes

1. J.S. Mackenzie-A manual of ethics, p. 119.
2. Avvaiyar-Konrai vendan, verse-72.
3. Ibid, verse-82.
4. Avvaiyar-Moothurai, verse-10.

5. Sivappirakasa Swamigal-Nanneri, verse-36.
6. Ibid, verse-30.
7. Avvayiar-Nalvali, verse-12.
8. Ibid, verse-21.
9. Avvaiyar-Moothurai, verse-11.
10. Tirumunaippadiar-Aranericcharam, verse-113.
11. Neethi venba-verse-59.
12. Tirumunaippadiar, Aranericcharam, verse-36.
13. Ibid, verse-18.
14. Kumaraguruparar-Neethi neri vilakkam, verses-5 and 55,
15. Neethi venba, verse-19.
16. Ulaganathar-Ulaganeethi, verse-11.
17. Avvaiyar-Konrai vendan, verse-70.
11. Avvaiyar-Moothurai, verse-11.
19. Ulaganathar-Ulaganeethi, verse-11.
20. Kumaraguruparar-Neethi neri vilakkam, verse-68.
21. Ibid, verse-14.
22. Avvaiyar-Moothurai, verse-18.
23. Kumaraguruparar-Neethi neri vilakkam, verse-5.
24. Avvaiyar-Moothurai, verse-19 and Nalvali-verse-8.
25. Tirumunaippadiar-Aranericcharam, verse-22.
26. Avvaiyar-Nalvali, verse-25.
27. Ibid. verse-19.
28. Ibid, verse-23.
29. Ibid, verse-20.

Abbreviations:

U.N. - Ulaganeethi
A.C. - Atthichudi

K.V. - Konrai vendan
N.V. - Nalvali
V.V. - Vetriverkai
AN.C. - Aranericcharam
N.N.V.- Neethineri vilakkam.

References :

1. J.S. Mackenzie-A manual of ethics.
2. D.I. Jesudoss-The ethical works of the Tamil.
3. Neethi Noolkal commented by C.V. Ganesan.
4. Neethi Noolkal II-Part, commented by A.P. Aravoli.

Agriculture and Irrigation Under the Imperial Cholas

Dr. V. BALAMBAL

"The Tamil Kings showed keen interest in Agriculture and irrigation work in their empire. The chola mandalam was a gift of Kaveri and the unfailing Kaveri spread her fertility on the wide fields yielding golden harvests."

Agriculture was the mainstay of the people of the Chola country. Majority of the people lived in villages where they led an energetic communal life. The Chola Country was noted for its fertility because of the flow of the Kaveri, its tributaries and branches. Kaveri carries waters of many tributaries through its course from its rise in the Brahmagin in Coorg and enters into this area about six miles east of Karur where it is joined by its last considerable tributary, the Amaravati (1). Thereafter it flows in a south eastern direction and divides into two about eight miles west of Tiruchirappalli to join very nearly again ten miles east of the same town thereby giving birth to the Srirangam Island. Kollidam, Vennaru, Vettarn and Arisil rivers enriched the Chola country.

The lands of the region were broadly classified into wetland (*nirnilam*), dryland (*Koḷḷai*) and the housing lands (*nottam*). The boundaries of lands were well marked and in times of need new boundaries were also fixed by the royal officials. All the lands were measured properly by the Chola rulers. The survey of all lands in Cholamandalam was undertaken during the reigns of Rajaraja I[2], Kulottunga I[3] and Kulottunga III[4]. The proper measurement of lands and laying of the boundary stones denote the keen interest shown by the Chola rulers and the local authories on the agricultural lands.

Based on ownership, the lands were classified into three groups. The first one was peasant proprietorship *(Veḷḷānvagai—*

Vellan = Cultivator, Vagai = Classs or manner) where individual peasants owned lands. Most of the villagers tilled their own lands although the king often claimed ultimate ownership of the lands. Most of the holdings were small and worked by the owner with the help of his family. Almost all villages were primanly settlements of peasants. The evidence of communal ownership of land in Chola times is known from the use of words like *Subha manjikkam*[5] *ūr manjikkam*[6] and *ūrppodu*[7]. Individual ownership of land was well recognised and numerous instances of alienation by sale of gift of the absolute proprietorship of the soil by individuals and of the inheritance of such property from father to son in the normal course could be gathered from inscriptions.[8]

Apart from cultivation land by individual land oweners the large farmsteads were cultivated with the help of hired labour. The king also owned large lands which were cultivated by the serfs in return for a fixed payment. The agricultural labourers were paid a daily wage, usually in grain[9].

Tenency cultivation was also in vogue, both on private lands and on quasi public lands such as temple lands, *mutt* lands etc. The landlord was paid a fixed amount determined in advance and tenant retained as his share what remained after payment of the expenses of cultivalion and other dues assessed on the land held by him. In almost all the villages the distinction between persons paying land tax and those who did not was clearly established. The tax payers had played important role in the tasks local Government.

The second category was the lands owned by the religious institutions. Such lands were known as *devadana (*lands given to the Siva temples), *Tiruvidaiyattam* (given to Vishnu temples), *Pallichandam* (given to Jain and Buddhist temples), *Madapurum* (given to *mutts*), *salabhoga* (given to the institutions which fed the *Sivayogins* and *Brahmins*) etc. Most of the lands were made tax free (*iraiyili*) by the donors. The donees employed peasants and cultivated the lands and enjoyed the produce after making payment to the peasants. If the lands were not

tax free lands, they paid a portion of the produce to the local bodies too.

The third division was service tenure comprising all the holdings described as *jivita, bhoga, kani, vritti* and so on. The assignments were in favour of public servants as remunerations for their official work under Government. The details of the rights of the parties to the arrangement was to be regulated by local customs. Mostly the assigned lands were owned by the servants and they looked after the cultivation part of the lands.

The prosperity of the owners depended on the fertility of the soil. The fertility was known from the cultivation of two or more crops a year[10]. It is not known in detail regarding the manure used in the soil and the measures of cultivation undertaken by the peasants. If the land was fertile, it was taxed more. There were fallow lands and substandard lands. Forest and waste lands were reclaimed and concessions in taxes and favourable terms of lease in the initial years were given to the cultivators[11].

Once the fertility was resumed, the land tax was reassessed accordingly. No direct statement on the gross yield of the land could ordinarily be traced in the records and the landlord's share called *melvaram, bhogam* or even *irai* at times is expressed. Rajakesari Rajendra's record from Chidambaram states that 44 *Velis* of land yielded in all 4500 *kalams* of paddy and the *melvaram* on that was 50% of the yield[12]. The value of wet land was more than that of dry land is known from the high taxation on wet land.

The important crops of the region were paddy, millet, sugarcane etc. Paddy was the chief crop. The delta of Kaveri is a large alluvial plain. The whole surface of the delta is one even level of paddy fields interspersed only with tops or clump of cocoanut, mango and fruit trees. There are no forests or tall tree jungles in this region[13].

This soil is very favourable also to the bamboo and plantain.

Though rain was the chief source of irrigation, rivers, canals and artificial reservories also formed to ensure regular supply of water to the fields. The kings showed keen interest in irrigation work in the empire. The Cholamandalam was a gift of Kaveri and the unfailing Kaveri spread her fartility on the wide fields yielding golden harvests. The Kaveri delta is 75 miles west of Kumbakonam *(Kudandai)*, the Arisil river branches of from the Kaveri, Similarly the *Vennaru* also branches into many channels. The low table land of Vellaru to the south west of the delta slopes to the east. The soils of this area ranges from the rich alluvium of the Kaveri valley to the dry red soils of the taluk of Kulittalai and Patterkottai[14]

The perennial waters of Kaveri river supplemented by the favourable north east monsoon rains have made the delta one of the most enduring agricultural areas of the country. It is believed that kaveri was released from the water pot by Agastya in response to the prayer of king Kantha and for the 'exaltation of the children of the sun.[15] The yearly freshed in the kaveri formed the occasion of a carnival in which the whole nation from the king down to the meanest peasant took part. The raising of the flood banks of the Kaveri by Karikala is mentioned in literature and inscriptions. The Malepadu copperplates of the Telugu Chola ruler Punyakumara says about the embankment of Kaveri by Karikala Chola of the Sangam age.[16] Another reference to Parakesari Karikalachola who raised the banks is made in the Tiruvaduturai inscription. The bank of Kaveri was also known as *Karikalakkarai* in the time of Aditya I and Parantaka I [17].

Kulottunga Chola III's inscription dated in his 31st reginal year (1209 AD) from Tirupampuram states about a tax called *kaverikkarai viniyogam,* collected from the people to raise the banks of kaveri and her branches during floods.[18]. This record shows the interest of the local authorities in caring for the banks of rivers and safeguarding the same in times of danger. The high place of agriculture in the national economy and the phenomenal fertility of the soil in the basin of Kaveri are reflected in the sangam literature.

The two *Vadavarus* were also known as *Virasola Vadavaru* and *Madurantaka Vadavarn*[19]. River Maniyam was otherwise known as Kunjaramalla after Parataka I's surname. Uyyakkondondanam, Kirthimanarn, Kudamuruti, Mudikondan, Vikramanarn are recorded in the inscriptions of the Chola rulers. They would have contributed to the betterment of agricultural work in the chola country. The rivers Manni, venni, kollikam and kad flowing in the Chola region were mentioned in the sangam literary works. Various canals dug from these rivers had irrigated villages in the Chola country.

Another important source of water supply to the lands was lakes(eri). In the absence of natural streams, lakes proved to be fruitful. The Chola kings and the local authorities showed keen interest in irrigation tanks. The Chola inscriptions are rich in supplying information regarding the construction of tanks, repairs of bunds, maintenance of tanks etc. The local authorities had a council known as *ērivāriyam* to look after the matters concerning the tanks in a particular locality. The following were some of the tanks mentioned in Chola records:- The *Chōla Vāridhi* Sholinghur[20], *Kalianēri* near Anaimalai[21], *Kallinangaikulam* at Cholapuram, *Vāiramēgataṭāka* of Uttiramerur, the Big Tank of Bahur, *Rajendracholaperesi* alias *Vīranārayanapērēri* at Gangaikondam, *Gaṇḍarādityapērēri* in Ulagapuram[22] *Sembiyan mādēvipērēri* in Tirumaḷapādi[23] *Madurāntakapērēri* in Chingleput[24] and in Tirubhavani[25] and *Kulōttungapērēri* at Maniyur[26].

The *Vīranārāyannpērēri* today known as *Vīranathānerī* was dug by Parantaka I, twelve miles west of Chidambaram to fill water from Kollidam. *Madurantakan Vadavaru*)[27]. This *eri* irrigated the lands in this region. Kundavai the elder sister of Rajaraja I and the daughter of Sundara chola evinced keen interest in public works. She dug *Kundavaipērēri* and *Sundaracholapereri* in Brahmadesam in North Arcot District for the supply of water to the agricultural fields of the region.[28]

A notable lake caused to be dug by Rajendra Chola I was the *Cholagangam* at Gangaikondacholapuram. After

defeating the ruler of Bengal, the holy water of Ganges was brought and Rajendra I erected a liquid pillar of victory (ganga jalamayam jayasthambham) in the newly built capital of Gangaikonda-cholapuram to commomerate the victorious march and return of his army to the Gangetic region.[29] The *Cholagangam* lake is now known as Ponneri. It has a bund of considerable height and a length of more than 5 kilometres. At full water level, it has a water spread of nearly 130 squire kilometres. Once it had a surplus water and in put channels from the Kollidam river and other sources and must have been connected to the palace moat.[30] The lake itself has now been divided into two parts by a road running across Gangaikondacholapuram with Jayankondacholapuram in the west.[31]

The construction of the tank, its maintenance its contribution to the agricultural fields go a long way in the history of irrigation works in Tamilnadu. The care be showed by the king and the local authorities in this regard is worth mentioning. It was the duty of the local authorities to maintain the lakes properly. They had to get the silt removed every year before the rain set in from the tanks under their control in time for them to secure the proper depth needed to store the full supply for the next year. Special grants were made for the same. A special case called *ērīāyam* was levied for the repair of the tank.[32] The *sabha* of Nemali *Chalukkikulakala chaturvedimangalam* set apart certain incomes as *ērīāyam* for the maintenance of the local tank. One of these was a small charge of 1/4 *pon* levied on men and women of the Brahmin community at death.[33]

Around 1110 A.D., a tank at Tirukkanchi was affected by a severe storm and breached. A local man effected necessary repairs to the tank.[34] Tax free lands were donated for the maintenance of the lakes.[35]

Agriculture was the esteemed profession of the Tamils. In whatever occupation others might be engaged, they must all depend finally on the peasants. No other profession is as fundamental as agriculture. The rivers sustained the fertility of the soil. The economy of the country was based on land.

The peasants worked hard in the lands and made almost all the villages self sufficent. Fertile land yielded food harvest.

The landlords were the backbones of their locality. The paid agriculturists were under the control of the landlords. They were loyal to their masters. They were paid in kind. There were no references to the revolting attitude of the peasants against their land lords. When the lands were donated, the paid labourers mostly continued to work in the same fields. The problems of the workers were not known from records. The local bodies took care of the poor agriculturists too.

The agriculturists depended on monsoon, rivers, channels, lakes etc. for irrigating their lands. The Chola period is noted for the irrigation facilities of various kinds. When the land was affected by famine and flood, the rulers and the local badies looked into the interests of the farmers. Thus the imperial Cholas had made their mark not only in the fields of conquest, consolidation, administration, art, architecture, literature and education but also in enriching their economy by giving ¡mpetus to agriculture and irrigation activies of their country.

Foot Notes

1. Y. Subharayalu, *Political Geography of the Chola country*, P.9
2. South Indian Inscriptions (S.I.I.) Vol. V Nos.222 & 223
3. Ibid, Vol. V, No.990
4. Annual Report on Epigraphy (ARE) 188, 208, 216 of 1918
5. S.I.I. Vol. III, Nos.156 & 181
6. A.R.E.266 of 1901
7. Ibid 42 of 1903
8. K.A. Nilakanta Sastri, *The Colas*, P.567
9. A.R.E, 114 of 1928
10. Ibid, 271 of 1915
11. Ibid, 357 of 1924, 287 of 1911.

12. Ibid, 118 of 1888
13. Epigraphia Indica (EI) Vol. XI, P.338
14. Y. Subharayalu, Op.cit, P.10
15. Manimekalai I, 9-11, 22-24
16. E.I, Vol. XI No.35
17. S.I.I. Vol. V, No.693
18. T.V. Sadasiva Pandarattar, *The History of the Later Cholas* P.527.
19. Parantaka I had the two titles Virasola and Madurantaka.
20. E.I, Vol. VI, P. 221-225
21. S.I.I. Vol. III, No.106
22. A.R.E. 140 of 1919
23. S.I.I Vol, V, No.644
24. Ibid, No.993
25. A.R.E. 192 of 1909
26. S.I.I. Vol. VIII, No.207
27. Ibid, Vol. VI, Nos.523 & 525
28. A.R.E.264 of 1915
29. S.I.I. Vol. III, No.205, Tiruvalangadu copper plates of Rajendra I.
30. S.R. Balasubramaniam, *Middle Chola Temples,* P.254
31. R. Nagaswamy, *Tiruvalangadu copper plates,* P.58
32. S.I.I. Vol. VII, No.805
33. A.R.E. 156 of 1942-43
34. Ibid. 215 of 1919
35. S.I.I. Vol. VI, Nos.294, 325 & 375.

Agriculture and Irrigation in Tamilnadu during the Vijayanagar Empire

A. RAMASAMY

"In Medieval Tamilnadu, in Vijayanagar period, agriculture was the main profession. There are evidences to prove that there has emerged a system of farming in the Vijayanagar period."

Tamilnadu which has a long recorded history, came under the rule of Vijayanagar Empire, during the latter part of the 14th century. The invasion of Vijayanagar empire commenced in Tamilnadu began when Kumara Kampana, the son of Vijayanagar King Buka I, conquered part of Tamilnadu and to act as the Viceroy of the empire. Historians would defer on the exact time of this invasion of Tamilnadu. However everybody assures that this might be around 1370 A.D. Kampana first defeated Sumburarayars, the rulers of the northern parts of Tamilnadu and also defeated latter Sultan of Madurai.

The rule by viceroyalty began by Kumara Kampana was in vogue till 1529 A.D. In Madurai, Viswanathan self proclaimed as the Ruler in the year 1529 A.D., followed by Sevappa Naickan in Tanjore and Vaiyappa Naickan in Ginji who also established such self proclaimed 'Naickams.'. The historians who deal specifically with history of Tamilnadu refers the period after 1529 as the Naicker's period. This period which is popularly known as 'Naick period' came to an end in the year 1736 A. D. has been marked only as the period of Vijayanagar empire.

During the reign of the viceroys of Vijayanagar, there is no involvement in the political and socio-economic lines of the people. They were rather eager to expand and maintain their

rule. The self proclaimed Naicks formed after 1529 A.D. divided their area into Palayams and there by they have brought out many changes. Among the available evidences only those which belong to the latter period contain more of these changes. This paper is an investigation into the agriculture and irrigation practices in vogue during this period. The inscriptions which are considered as the primary sources give ample informations about this legacy and alien system and collection of tax, and survey and grants. But literature presents a transectional view dealing with agricultural implements instruments, labourers, types of people and labour engaged in agriculture, and the way how the produce is shared etc. But in inscriptions are cannot find such informations about agriculture.

Apart from literature, Palayappaṭṭu Vamsāvali-some-thing like a memoir of the latter reirapparents of the Palayams also speaks about the land relationships and agriculture of their period. So this paper takes all these sources, for reconstructing the ideas of agriculture and irrigation of these days.

System of Agriculture

In Medieval Tamilnadu-both in the period of latter Cholas and Vijayanagar period, agriculture was the main profession. Historians have told that the major source of income of this period was from agriculture[1]. There are evidences to prove that there has emerged a system of farming in the Vijayanagar period. For bringing out this system, one has to know about the land relationships of the time. It seems that there was a three tier system in the land relationships. Sathianathaiar would say that,' all the lands of the time belong to the King; then these were distributed to the Amaranayaks, who in their turn have alloted this lands to agriculturalists. These agriculturalists gave 9/10 of the income to their Amaranayaks; there were more than 200 such Amaranayaka in all over the empire. Allmost all the villages there were such grants.[2]

This was the situation when there was the direct rule of Vijayanagar. When the Nayak have themself become the rulers, they have divined their lands into palayams, and appoin-

ted polegars, to supervise the lands and these polegars in their own right on the land have distributed them to religious establishments, captains and those who were helpfut in one way or other.[8] Actually these landholders are not the tillers of the land The lands thus distributed were considered as either big farms (Perumpannaikal) or small farms (Ciṛupannikall) according to their size.

Farm System

Pallu is a literary genre, which generally depicts, the peasents life of the nayak period of the 16-17th century. For studying the land tilling of that era, Pallu plays a major role in giving the evidences for the purposes. Though it does not speak about the nayaks who were in the helm of affairs, it speaks about the lower strata. One continued their three tier system as follows.

1. Land owner
2. The supervisor (Paṇṇai vicārippān)
3. The tiller or the agricultural laborer (Pallan).

All the Pallu described the powers and possessions of the three people mentioned above, only one Pallu by name Kurukūrppallu adds Murayampillai as one who helps the supervisor perhaps this assistant was intended for a bigger farm.[4]

The owners of the land were either religious institutions or local chieftains. The pallus like Tillaippallu, Kōturppallu, Sivasiyalappallu speaks about the farms owned by Siva temples. Tirumalai Murugan pallu and Kodumalūrpallu speaks about the farms belong to Muruga temples, where as Paralai Vināyagar pallu describes the farm belonging to Vinayaga temple and Mukkūdarpallu, Kurukūrppallu mentions about the farms as belonging to Perumal temple. The pallu like Vadagaraippallu, Senpagarman pallu, Thandigaik Kangarayan pallu, Pōrūrpallu, Kanganāyakarppallu Thenkāsaippallu, Palanippatticcettippallu speaks about the farms which belonged to some private individuals. There are also other references about some farms which were owned by some people who were either the merchants or the artisans, such evidences are available with Vaiciyappallu and Māṉthaippallu,

Though the land owners were different the system of land relationships was one and the same, At the lowest stratum were the labourers who were usually identified with their caste names. viz. Pallar and Pulaiyar. They were supervised by Paṇṇai Vicārippan or Paṇṇaikkarān, and they have to deal with them directly. The owners were only the absentee landlords and they do not come in the picture directly.

Cultivations

In the inscriptions one cannot find information about cultivation, however there are ample information in Pallu and other types of literature as well as in the Pālayapattu Vamsāvali. They give information about the seedling, transplantation, manuring and harvesting procedure.

It seems that agriculture works were started at two different times in a year. Vaiyāpurippallu, which has emerged from Palani area mentioned about the starting of cultivation in the end of the month 'Ādi' (July-August).[5] Mukkūdarpallu of Tenkasi region mention that the cultivation started functioning in the month 'Thai' (January).[6]. This two months were considered as seasons for starting the works, these were also other references in this pallus regarding the suitability of paddy seeds in accordances with seasons. The names of the seeds like Kārthikaiccampā and Chitraiccampā would suggest this. In pallu literature, according to N. V. Jeyaraman, there are about 150 varieties of paddy.[7] Most of the references in pallu and Vamsāvali were about the cultivation in the wet lands. The dryland cultivation were rarely mentioned. These wet lands were named after their locations, parukkadi, murukkadi, panaiyadi. aladi, vāladi, kamugadi; apart from the general terms like kattainilam, urincu nilam, kalani and vayal.[8] Moreover the lands are also mentioned as 'Kādu mēdu nañjai puñjai related to the nature of the lands and for the purpose of the tax collection.[9]. There also references regarding garden lands which were assaigned for tree farming nemely māvadai maravadai thōppu, thoravu.[10]

Seedling preparation

The first stage of agriculture is the preparations of seedling For this seeds were sown on an anspicious day. Pallus

ike mukkudarpallu, Tiruvarurppallu speak about the good omen for sowing the seeds.[11] For sowing and nurshing the seedles the particular portion of the land was prepared. There are many terms which may refer to such land and activity - nārrañgāal, nālēridal, Tholi kalakkuthal, parampatithal, kañgalavu nēr paiccuthal, vettivittuccarithal, vēlipirithal.[12]

Manure

The sources speak about the using of manure as important as ploughing The basic manures were organic things of the natural plants certain varities and the wastes of cattles. For this purpose the cattles were reared in plenty. Vaiyāpurippallu has noted that there were some 5000 cattles in Vaiyāpury farm.[13] Another work has mentioned that there were 10000 cattles in a farm belonging to the local chieftain Cinnanāñ-catēvan.[14] These numbers may be a poetic exaggeration how-ever one can assure that cattles were a part of an important assest for the big landlords. Apart from the production of milk etc. the cattles were used for manure for their wastes. Māñtaippallu has elaborately dealt with it. Apart from their own cattles they had also hired one's cattles from the com-munities (Idaiyars). whose the profession was cattling. The cattles would rest on the particular land for certain days. This is called Kidai, which is a natural manure. The pallus like mantaippallu had described about this type of manure.[15]

Transplantation

It is interesting that for every stage of agriculture an auspicious day was chosen. Fixing an auspicious day, the work of transplantating seedling in the fields started. First the land was levelled which was called as parampatital. For a good cultivation the ploughing and levelling were repeated thrice. The first plough is called Tarusadi, the second one is erattippu, the third one is muccadippu. There is also a fourth plough which is called nalulavu.[16]

Kalappai which is made of wood was the instrument for the ploughing. Pagadu or Kolu made of iron,

is the instrument was attached to the bottom of the Kalappai being enable to plough the soil deeply. The total structure was called ēr; the names of other parts in ēr are mēli, nugam, vittakayaru, kāl and ulavukōl. There are many references regarding the ploughing with the help of yoked bulls. It can be noted here that there are no mentioning about the use of buffaloes for ploughing the lands.[17]

In transplanting and the seedling the women had played a major role. They were normally called as paḷḷi and Kadaiciar. Before starting their work, they were used to sing Kuravaippāttu or rise the Kuravai sound. Women were the major class of workers who had worked in the lands with regad to ploughing no women was mentioned. But in the occasions of seedling, transplanting, weeding (removing the grasses) and harvesting, women had participated in large number.[18]

Harvesting

Tamil literature of this Naick period had elaborately spoken about the harvesting in the fields. Of course, this is because of harvesting is the result of their hard labour. So in these occasions they had rejoiced. After reaping the corns they used to collect them in a place meant for it (kaḷam). Then they would thrush them. Paḷanippiḷḷattamiḻ narrates how the golden coloured corns were reaped in heaps with sickles and then made them dry and gathered them together. The buffaloes and bulls were used to thrush the corns to separate the paddy. Then they had separated the paddy also from the chaff with the help of the blowing wind. Then they were bagged properly. After distributing some amount to the temples, artisans and others. The straw was stored as haystock and protected properly for the cattle feedings.[19]

Agriculture Instruments

We have references in the literary works of Naick period with regard to various instruments used in agriculture. They are ēr, kalappai, parampu and then manvetti, kūdai, muṟam and arivāl.[20]

Crops

The literary works which give evidences for agriculture in those days would give the names of only the crops in the wet lands (nañjei) and not in the dry lands (punjei). However historians like K.K. Pillay have mentioned the names of varagu, tinai and also some spices reared in those days.[21] But the Naick literature spoke mainly about paddy. There are also a few references with regard to sugarcane. Ariccantirapurāṇam speaks about how the sugarcane was crushed.[22]

In addition to the reference cited above there were also regarding the commercial crops of those days. Some lands were distributed as puḻiyadi and māvadi which would suggest that the commercial things like tamarin and mango were reared in specific lands.[23] There were also references about the betal leaf croppers and in this regard the term Kodikkāladi was mentioned. There were also references with regard to onian, ginger, ferngreek, sesame and asafoetide (venkayam, sukku, venteyam, perunkayam).[24]

Though agriculture was considered to be the primary occupation of the people in Naick period. It had not given the full benefits of their labour to the people. There were frequent references about the famines.[25] Due to the droughts the cattles had suffered and the plants had dried and non-availability of the seeds to sow. They had suffered without the bulls for ploughing.[26] Tanippātaltirattu and Tiruvarurkkovai had narrated such miseries. Patikkacuppulavar had noted price hike when the rice had the value of gold.[27]

Miseries in agriculture were not only due to the droughts. The conservative method and conventional instruments were the main reasons for the backwardness in agriculture. If one compares the means of agriculture in Naick period and the earlier period, he has to arrive at a conclusion that there was no major differences. Prof. K. K. Pillay has observed these conditions of agriculture of those days.[28] This conventional system with no changes for a long period is generally attributed to 'the asiatic mode of production' by the European scholars. Of course because of these conditions there was a self sufficient village community in India.[29]

Irrigation

Irrigation is the major source for agriculture. Cultivation and irrigation are interdependent. So there is a proverb in Tamil, when the level of water rises, the production of rice also rise.(nēruyare nel uyarum).

In the Naick period the sources for irrigation are not in plenty. Pāḷayappattu Vamsāvaḷi and the few literature of the period had given some sources for knowing about the system of irrigation. There is no reference regarding the well water irrigation. The river and tank were the two main sources in those period.

River Water Irrigation

There was no evidence in either literature or else-where to prove that the dams were built across the river. But there were some references in vamsāvaḷi to prove that same canals were dug to bring water from rivers to the tanks. These were called as anaikāl. Māṉtaippaḷḷu speaks about necessity of supervising these canals. So that the tanks would be filled, so as to enable to irrigate the fields. There was some references about floods. But the same time how they were protected. There were also references discribing how the tanks were protected from leakages of the tank bunds. So it can be assumed of that the river water had been fully utilised.[30]

Tank Irrigation

There were many references about the tanks in the vamsāvaḷi (Pallu literatnre speak more about river irrigation). There were many terms like kuḷam, ēri and Kaṇmai. The tanks were filled by the water either from river or by the means of rain. When the tanks were suddenly filled and when there were symptomes of leakages and breeches in the tank bunds.

For these purposes the people had rushed to the tanks along with the instruments like spade, baskets, oil lamps and tēppantum in night times. They had with them something like an umberla—Koṉgaṇi prevent themselves from rain.[31]

There are ample evidences in both literature and vamsavali to conclude that the tanks had been dug and canals in those

days. For a large scale cultivation the irrigation of the Naicks period would not be considered as sufficient. Even the people in the wet areas had been eagerly waiting for the symptoms of rain. Pallu literature would give many such references.

Irrigation and Government

As mentioned in the beginning of the paper lands were indirectly owned by the king and the local chieftains, So also this system of irrigation. There were no references for proving that any individuals had owned any sources of irrigation. There were also no references to prove that the Naick kings had directly involves either the digging or the maintaining the tanks. However the polegars had dug some new tanks. Manvidutodu refers to one Vaduganatha durai, a chieftain of the Sivakaṅga region, who had dug certain tanks and made the barren lands and forest in to cultivated lands. There were also references to Vaduganatha Samutram which has a big tank named after him.[32]

The tax system of the Naicks period was such that irrigation was under control of the Rulers. One third of agricultural tax had gone to central govt. The remaining amount were utilised by the local polegars for the purposes of irrigation and maintaining the police and army. Historian Sathianathair who speaks that such a system was prevalent in that time.[33] Prof. A. Krishnaswamy would say that there was a member in the Ayaṅkāra system to supervise the irrigation. He was known as nērkaṇti (waterman) or the tank man (madaiyan), who was responsible for irrigation in the concerned villages.[34] Thirumalai murugan paḷḷu has also mentioned the terms as vaikāl, madai and mataku with reference to the irrigation works.[35]

There are ample evidences in vamsāvali to conclude that management of irrigation rested with the polegars. Hence when the successors of the polegars are mentioned, the names were attributed along with the tanks and ponds dug by the predecessor. For example the sixth sucessor (pattakkāran) of Ayakudi was attributed as who had dug the big tank (Peria kuḷam) and central tank (nadukkuḷam) along with the canal.[36]

Thus irrigation was a state subject in the Naick period. But one cannot find either a good plan or a serious interest in expanding the irrigation. In the Chola period there were many references regarding the construction of the dams, digging of tanks and canals as well as the maintanence. In contrast to the Chola period, the Vijayanagar period finds only a poor system of Irrigation.

Foot Notes.

1. Pillay. K. K., Tamilaga varalārum makkalum panpatum p.423
2. Sathianathair. R., Intiya varalāṟu. pp. 351-352.
3. No. 1 on p. 158, No. 3 on p. 112, No. 4 on p. 112 No. 3 on p. 190, D. 3255, No. 2 on p. 95, No. 3 on p. 102 No. 66 on p. 224, No. 67 on p. 225, No. 24 on p. 12.
4. Kurukūrppaḷḷu, 22, 23, 24.
5. Vaiyāpurippaḷḷu, 136.
6. Mukkūtaṟpaḷḷu, 113.
7. Jeyaraman, N. V., Pallu elakkiam p. 54.
8. Vaiyāpurippaḷḷu, 119-120.
9. Pālayapattu vamsāvaḷi, 1 : 31.
10. Palayappattu vamsāvaḷi, III : 33.
11. Mukkūṭaṟpaḷḷu, 113.
    Tiruvārurppaḷḷu, 50.
12. Jeyaraman, N. V., Ibid. pp. 159-161.
13. Vaiyāpurippaḷḷu, 150 : 6.
14. Patpirapaṉtam, 108 : 3-4.
15. Māṉtaippaḷḷu, 56-57.
16. Jeyaraman, N. V., Ibid. pp. 159-161.
17. Patpirapaṉtam, 71, Palanippiḷḷaittamiḷ
    Tiruvārūrppaḷḷu. 50, Ariccaṉtira purāṇam, nāttucciṟappu, 31, 36.
18. Palanipillaittamil, 9, 24
    Ariccantirapurāṇam, nāttucciṟappu, 33, 36.
19. Paḷanippiḷḷaittamiḷ, 16
    Kamalālayacciṟappu, 86
    Ariccaṉtirapurāṇam, nāttucciṟappu, 87.
20. Māṉtaippaḷḷu, 31, Vaiyāpurippaḷḷu 203
    Kamalālayacciṟappu. 86.

21. Pillay. K. K., A Social history of the Tamils part I, pp 182-198.
22. Ariccantira purānam, nattuccirappu 33.
23. Vaiyāpurippallu 119-120, N. V. Jeyaraman, Ibid p. 166.
24. Tanippātal tiratu (Ka. su. Pillay Ed.) p. 269.
25. Tiruvarurkkōvai-1.
26. Tanippatal tirattu (Ka. su. Pillai. Ed.) p. 269.
27. Ibid.
28. Pillay, K. K., A Social History of the Tamils part I pp. 182-198.
29. Marx. Karl, Capital, 1 : 11 : 4
30. Māntaippallu, pp. 56-57.
31. Ibid p. 31.
32. Mān vidu todu, 153-163.
33. Sathianathair, R. Ibid pp. 365-366.
34. Krishnaswamy. A, Tamil country under vijayanagar pp. 104-105.
35. Jeyaraman. N. V., Ibid. p. 167.
36. Pālayappattu vamsāvali I : 27.

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Wood Carving as an Industrial Art of Tamil Nadu

Dr. RAJU KALIDOS

"Wood and bamboo were largely used in the constructions of the pre-Pallava period. Huge palaces and temples were built in wood. Apart from agricultural, industrial and household implements a number of wood carving arts have survived to exist in Tamil Nadu down to the contemporary times."

Wood is one among the antique materials utilised by human being for making household utensils, technical (agricultural or industrial) implements, building houses, temples etc. The *Piṅgalam* (V. 441), a medieval lexico-graphic work, recognises wood as one among the ten basic materials used for erecting temples and making icons.[1] The ancient usage of wooden tools in household and ritualistic contexts still continues as is evident from the prevalence of utensils like *mattu* 'churn-stick'; *sruk* and *sruva*, both spoons used in Vedic *yajñas* 'sacrifices'. Temples in Tamil Nadu, prior to the period of Mahēndravarmaṉ I Pallava (C. A.D. 580-610),[2] were built mostly of wood, bamboo and such other perishable materials. Even the *mūlabheras* 'principal icons' in temples like Varadarājasvāmi at Kāñchipuram, Trivikrama at Tirukkōyilūr and Jagannāth at Pūri were made of wood and in Pūri still the tradition continues. In hilly tracts like Kerala, part of Tamiḻaham in the ancient past under the Cēras, wood was the be all and end all of artistic works. Temples in Kerala down to the present day are mostly made of wood. In Tamil Nadu, though after the 6th century A.D, the emphasis shifted to stone; and yet parts of the temple, especially vā*hanas* like *tēr* 'temple car' continue to be made only of wood. This indicates that wood carving was a prosperous industry in Tamil Nadu through the ages. The present paper makes an attempt to

trace: (1) the ancient value of wood as an industrial medium, (2) the wood carving arts of Tamil Nadu, (3) the canonic accounts pertaining to the use of wood and (4) the potentiality of wood carvings in the artistic heritage of Tamil Nadu.

Wood as an Ancient Industrial Medium

In marked contrast to the Sanskritic *dhamaśāstra* tradition of forest life (*vanaprasta* āśrama), meant for the anchorite and those who had renounced mundane life, the Tamils treated the hilly tract (*kuṟiñci*) and forest tract (*marutam*) as an integral day to day affair in human life. So the hill and the forest, and their flora and fauna, figure prominently in Tamil cultural life. Kerala was a *malaināḍu* 'hill country' and was the seat of an ancient Tamil kingdom, the Cēra, which was more associated with the worldly aspect, rather than the recluse. The two royal brothers of the Cēra ruling family, Ceṅkuttuvaṉ and Iḷaṅkō-aḍikaḷ, represent the mundane and the other-worldly aspects respectively, which indicates that both go together in Tamil way of life, rather than creating a strict dichotomy between the two. In this way of life wood as a product of the forest or hilly regions encompassed the entire fabric of society and was the chief commodity of economic activity and social life. We get a panoramic account of things associated with wood in the earliest stratum of Tamil literature, called Caṅkam.

The *Puṟaṉūṟu*[3] has references to the antique usage of things like *ēr* 'plough-share' (33, 375 etc.) *Kuṭai* 'parasol' (24), *cuḷaku* 'winnowing pan' (249, 321), *cakaṭam* (102) or *cakāṭṭu* (60) or *cakāṭu* (185) 'cart', *tēr* 'chariot', *nāvāy* (13, 66 etc.) or *ampi* (261, 343) 'boat', *kuṭil* 'hermitage' 120), *tūṇ* (86) or *kampam* (169) 'pillar or 'post' and so on, all made of wood, bamboo etc. The people engaged in wood works and the existence of things made entirely of wood like boats, chariots etc. indicate that in ancient Tamil Nadu wood carving was a flourishing industry.

Of all these references to things made of wood, the allusions connected with *tēr* are simply spectacular. Entirely made

of wood, from the base to the final, these vehicles were mostly used for conveyance by the nobility and by soldiers. Needless to say that it was part of the *caturaṅga* of ancient Indian armed wings. There are about 334 allusions to cars in ancient Tamil literature, including the Eighteen Minor Works and the Twin Epics. The following epithets of chariots appear in a redundant measure in Caṅkam literature: *Koṭittēr* 'chariot with flag' (*Puram.* 367), *poṟṟēr* 'golden car' (*Mani,* 18:32) *Kaṭavul-tēr* 'god's (Sun) chariot' (*Silap.* 27:136), *puṉainetuntēr* decorated tall chariot' (*Aham.* 14), *tiṇṭēr* 'stong chariot' (*ibid.* 44), *neṭuntēr* 'tall chariot' (*ibid.* 50), *iyaltēr* 'swift car' (*ibid.* 208), *aṇikoṭēr* 'beautiful chariot' (*Puram.* 68) etc. The frequency of references and the epithets associated with chariots indicate that this wheeled vehicle was held in high esteem in the early Tamil society. The word *tēr* itself would mean 'choice' or 'chosen', thereby indicating that it is a select possession.[5] The mechanism of the chariot was well engineered. Many of the technical parts of the chariot are noted in literature, for example: *accu* 'axle' (*Kural.* 48.5), *accāni 'linch-pin'* (*Pala.* 276:4), koṭiñci *'seat'* (*Aham.* 110), ār or *āram* or *ārai 'spoke of wheel'* (*Puram.* 283, 69; *Perum.* 46), āḻi 'wheel' (*Nar.* 78:8) and so on. The car going path was called *tērvīti* or *kotittērvīti* or *maṇittērvīti* (*Mani.* 17:41 21:120, *Cilap.* 27:152). Children played with *ciṟutēr* 'small car, (*Ain.* 403:5 *Mani* 7:55)[6] In the Twin Epics we are told that the gods were taken in procession as seated in cars. Solidiers in battlefields had ritual dances done around the chriots, called *tērōr-kaḷavaḻi* (*Tol. Porul.* 76: 3,4), *piṉērukuṟavai* (*ibid.,* 76: 6) and *muṉtērkuṟvai* (*ibid,.* 76:5). The mythology connecting Śiva's battle with the *asuras* of Tripura and the former's journey in *vaiyantēr* 'chariot of earth' (*Pari.* 5:23) were all popular with the Tamils since the Caṅkam period. Many of the kings of the age had the word *tēr* prefixed to their names (eg. Tērvaṉkiḷḷi, Poṟṟērceḻiyaṉ etc.). Chariots were made of wood and the tradition still continues. There are also hints to cars made of gold (*Cilap.* 27:84) and ivory (*Porunar.* 163). All these evidences prove that the chariot commanded a royal status in Tamil Nadu and that the carving techniques were so advanced that even ivory could be deployed in their

manufacture. The technology was so intricate that in later times a special class of worksmen called *rathakāraṣ* developed who were dedicated to car manufature.

Besides vehicles, both water-bound and earth-bound, technical implements etc., the palaces and temples of the pre-Pallava period were also dominated by the constructions in wood. Art historians hold the view, with due credence to Mahēndra varmaṉ's Maṇḍagappaṭṭu inscription (*supra.*) that the pre-Pallava temples were made of perishable materials like wood. This is supported by the following arguments. The failure of archaeology to explore any living temple of the pre-Pallava period; which means either there must have existed no temples or they were washed out due to the impermanent materials used in their construction. The former view doesn't stand the test of litrature analysis as there are lot of evidences to *kōṭṭam* 'temple', *kōvil* 'place', *māḍam* 'mansion', *tōraṇavāyil* 'gateway' etc. in *Coṅkam* works. There are also references to *citramaṇṭapam* 'painted pavilion' (*Cilap.* 28 : 87), *citramā*ḍam 'painted mansion' and *citravitāṉam* 'painted canopy' (*Cilap.* 27 : 156, 203). Also the references to *aivakaimanram* 'five assembliers', viz., *veḷḷiṭai-maṉṟam, ilañji-maṉṟam, neṭuṅkāl-maṉṟam, pūta-catukkam* and *pāvai-maṉṟam* (*Cilap.* 5 : 140) and *maṇṭapam* (Mani. 2 : 13) indicate that temples and pavilions associated with worship did exist in Tamil Nadu in the pre-Pallava period. It so, the failure of archaeology to bring evidences of such temples or mansions to the lime-light would confirm the view that what all existed had perished due to their impermanent nature. This would also imply that wood played an important part in the temple constructions of the age.

The above hypothesis has been further elaborated by Professor T.V. Mahalingam with reference to the data obtained in Caṅkam works like *Ahanāṉūṟu, Neṭunalvāṭai, Maturaikkāñci, Paripāṭal* etc.[7] There were tall gateway on the ramparts of the city of Pukar which had *maharatō*raṇas as lintels with *śikharas* surmounting them *Aham.* 181 : 20-2). The *gōpuravāyil* of Madurai is described in the *Neṭunalvāṭai* (11. 79-88). These structures were made of wood and coated with mustard oil. With references to these coraborative evidences we have a strong case for palaces, public pavilions and temples of the Cankam age, made mostly of wood.

From the foregoing discussion it may be concluded that wood and bamboo were largely used in the constructions of the pre-Pallava period. Huge palaces and temples were built in wood as attested by the *Neṭunalvāṭai.* These palatical edifices had gateways, adorned with domes and decorated lintels. A special class of artists called *taccaṉ* were employed for the works in wood. Having gone deep into social usage, the same terminology was handled to denote stone cutters in later times. It seems that the Tamils of the pre-Pallava period had a taboo in using stone for crecting temples. So the technology of wood was much specialised. In the later half of the 6th century A. D. when the taboo over stone was lifted, the architectural mechanism handled in the case of wood was diverted into the stone medium, So what we find in the architectural execution since the Pallava period is a reflection of the wood carving technology as adapted to the lithic medium.

The Wood Carving Arts of Tamil Nadu

Apart from agricultural, industrial and household implements, a number of wood carving arts have survived to exist in Tamil Nadu down to the contemporary times. Most of them are connected with the temples. Notable among them are the temple doors, studded with iconic presentations on outer surface, *vāhanas* and *tērs.* These works of art are little explored by scholars and lot of work remains yet to be done. Professor Vijaya Venugopal (Madurai Kamaraj University) in a stray study has attempted a pioneering paper on the artistic potentiality and iconic presentations in the doors of the Kailāsanātha temple at Brahmadesam (Ambāsamudram taluk, Tirunelvēli district). Not less than 140 sculptures depicting the various aspects of Hindu iconography are found in miniature reliefs in these doors.[9] Similar works could be undertaken in the various parts of Tamil Nadu such as Tirupparaṅkuṉṟam. A massive piece of work in art, the temple door as an entity of study deems a full-fledged research work. It is interesting to note that just above the key hole in the small temple door of the Bhadrakāḷiammaṉ temple at Śivakāsi a *maithuna* figure is lodged. A visitor to the temple has his first access only to this erotic piece. It is highly suggestive because in

the Hindu way of approach to god there are to *mārges* 'ways', viz,, *yoga* and *bhoga*. The piece in the śivakāsi temple door, its theme and location, symbolically suggests the importance attached to *bhoga-mārga*. It conveys that the key to godhood is *bhoga*. Thus the arts in wood are philosophically and sociologically relevant from the point of view of historical investigation.

The Nellaiyappar temple at Tirunelvēly and Vaṭapatrasāyī temple at Srīvilliputtūr deserve a worthy mention in the context of the arts in wood. The Nellaiyappar temple possesses five temple cars for the Pañcamūrtis and the car of the Śrīvilliputtūr temple is one of the biggest in South India. Apart from these huge wooden cars, both the temple lodge some iconographic pieces in *maṇḍapas* which are made of wood It seems that these sculptures once formed part of temple cars, When they found the cars unfit for processional purposes. the icons in them were removed and lodged in the temple *maṇḍapas* Similarly in the Nāganātha temple at Nayiṉārkōyil (Rāmanāthapuram district) a wooden *vimāna* of excellent workmanship is preserved in the temple cloister. It strikingly compares with the *vimāna* of the Dharmarāja-*ratha* at Māmallapuram. During a visit to the field the author was informed that it formed part of a dismantled *goratha*. These are few instances to indicate the stray works of art in wood, availabile in the various parts of Tamil Nadu which have not been properly surveyed and documented. At least the Nayiṉārkōyil piece has formed part of a paper by the present author, being published in the *East and West*, Rome.

Among the various types of art heritage in wood, those pertaining to *vāhanas* (Pl.4) very conspicious from the aesthetic and quantitative points of view. Each and every temple in Tamil Nadu possesses a member of them which are meant for taking the gods and goddesses in procession during festivals. In order to make the maximum use of the *vāhanas*, the festivals called *mahotsavas* and *brahmotsavas* are so planned and arranged that a particular *vāhana* is ment fōr a a day's festival. For example the Māriammaṉ temple at Puṉṉainallūr (Thañjāvūr district) holds the *brahmosava* for fifteen days and has

the following *vāhanas* taken in procession on each of the festive days during the evenings : *muttuppallakku* 'pearl palanquin', *aṉṉam* or *hamsa* 'swan', *ciṅkam* or *siṃha* 'lion', *pallaku* 'palanquin', *bhūtam* 'demon', *kālai* or *vṛṣabha* 'bull', *vāṉai* or *gaja* 'elephant', Sesa, *kutirai* or *aśva* 'horse' *tēr* and *teppatēr* 'floating car'. There are also other vehicles called '*kelpavṛkṣa* 'wish-fulfilling tree', *Kāmadhenu* 'wish-fulfilling cow' Kailāsa, *Indravimāna*, Airāvata, *Mayil* or *mayūra* 'peacock', *kiḍā* 'goat', *peruccāli* 'bandicoot', *māṉ* 'deer', *puli* 'tiger', *nari* 'fox' the winged *yāli* and so on.[10] These *vāhanas* are scooped out of solid blocks of wood. Sometimes they are inlaid with a thin coating of brass, gold and silver. In form most of the animals motifs represent their respective zoomorphic features. Sometimes *vṛṣabha* as Nandi, attendant on Śiva, may have a human form as is *Garuḍa* for Viṣṇu. *Kalpavṛkṣa* is presented like a tree and Kailāsa, a mountain. *Kāmadhenu* is a cow, having the face and brests of a woman and the rest of the body cow-like, also having the udder. Seṣa is a snake with five or more hoods. Airāvata is an elephant with four tusks. *Yāḷi* has a leonine face and an elephant's proboscis. The number of *vāhanas* found in the temples of Tamil Nadu is inestimable because even an insignificant temple in a remote quarter of the slumbering countryside may possess as many required for festive professions. But it is a pity that these monuments, their *lakṣaṇas* both iconographic and iconometric described at length in *śilpaśāstras* and *āgamas*, lay dumped in a dark corner of the temple, least cared for in times other than the festival and much neglected also by art historians. They have not so for been properly surveyed, documented and studied. Therefore it is high time that an attempt is made in this direction before such priceless relics of antiquity pass into the hands of pilferers and cast into dustbins. A research study in this direction will not only be rewarding from the artistic point of view but also from the sociological perspective of a dynamic dying Tamil culture.

The research potentialites of the art in wood in Tamil Nadu rests with *tēr*. In structural aspects, the *tēr* represents the *garbha gṛha* of the Hindu temple and is itself miniature temple. It consists of the six integral parts of a *satāṅga-vimāna* such

as *upapīṭha, ahiṣṭhāna, pāds, grīva, śikhara* and *kalasa*. Made entirely of wood from the *ādhāra* bellow to the *śikhara* above the most striking part from the iconographic point of view is the plinth consisting of *upapīṭha* and *adhiṣṭhāna*. The plinth in the temple car is an elaborate structure and constitutes one third of the height of the entire car. When compared with the model of a lithic temple, it goes closer to the structural aspects of a *māḍakkōyil* which alone have an elevated plinth.[11] This part of the car is made of solid blocks of wood and consists of a number of intricate mouldings as follows: wheels, axles, *ādhāra upapītha, adhsṭhāna, nārāsana, devāsana, simhāna,* and *alaṅkārāsana*. The *pāda-vayga* part of the car is made of wooden pillars and outwardly covered/decorated with *tērc-cīlai* 'carpets'. The *vimāna* is also a similar structure, erected with the use of wooden poles and bamboos. The entire car is an elegant structure and is handled as a mataphor for things magnificent and majestic in Tamil parlance. From the perspective of an art historian, it is the plinth (Pl. 1) that matters much. The abode of Hindu iconograpy, parts of the plinth like *ādhāra, upapīṭha adhisṭhāna, nârsāna devāsana* and *simhāsana* are studded with sculptural pieces on their outer surface in all the four sides of the *sarvatobhadra* car. The variety of themes portrayed includes the canonic forms (Pls. 2 & 3) of Siva, Viṣṇu, Brahma, Gaṇapati, Subrahmaṇya, minor gods and goddesses, the purāṇic events, *sthalamahātmyas* and scenes from the *itihasas* and social life of the land. It is a miniatutre art gallery and views ken in its conceptual range. It constitutes a veritable area for in-depth exploration of rate iconographical forms. It is a living art and iconographical developments have not been pertified here as it happended in the case of the stone temples after the Vijayanagar-Nāyak periods. Totally there are about 900 temple cars throughout Tamil Nadu according to the *Census Reports* of 1961. Select pieces of cars (totally 343 from 246 temples in 214 centres) were studied by the present author for his doctoral thesis. Rest of the cars remain unexplored. Even the iconographical survey conducted by the present author from the cars studied by him is not thorough but based on random sampling with due credence to rarity of features. From out of 65,900 images found in the 343 cars, just 2,795

were listed and studied. In all the 900 cars a sum total of 1,68,200 images are estimated to exist.[13] Needless to observe here that lot of work remains yet to be done in surveying and documenting the iconographs in temple cars. At present the Tamil University, Thañjāvūr, has a major research project on this theme and a scholar is engaged in a thorough documentation in the Thañjāvūr district. More works are essential to cover the entire range of the wood carvings in tēr in view of the dearth of work done, the research potentiality of the subject matter and the decaying conditions to which these wonders in wood are exposed.

The above study bears witness to the dimensions of the work going on in Tamil Nadu through the ages. Even though the stress on wood diminished since the Pallava period, the medium of wood for building purposes was not altogether given up. Though temples came to be built of stone, parts of the temple complex *vāhanas* continued to be in wood. The nature of work was such that the Tamils had not only a specialised cadre of skilled craftsmen for wood but also devised scientific methods for procuring wood *dārūsamgraha,* and making use of them. In medieval canonic texts, āgamas and *Śilpaśāstras,* these rules and regulations are elaborated. It will be pertinent at this juncture to review these details, as also the tradional lore popular with *śilpis,* to ascertain the magnitude of the wood carving industry in Tamil Nadu.

Canonic Mandate Governing Wood

Dārūsamgraha[14] (*daru* 'wood') was a meticulous process of the selection and collection of wood. The *Brahmāyacitrakaramaśāstra* (Ch. XV) *Padmasamhita* (Ch. XI), *Marīcisamhita* (Ch. XXVII), *Puruṣottamasamhita* (Ch. VI) and *Viṣṇusamhita* (Ch. XIV) codify elaborate procedural details and the type of wood meant for the various types of work involved.

The *Brahmaīycitrakaramaśāstra* (XV : 4-10) has a broad classification of wood into four types in relation to *varṇāśamadharma.* On this basis they are called Brāhmaṇa trees, Kaṣtriya

trees, Vaisya trees and Sūdra trees. Another text called *Maṉaiyaḍi-śāstram* (V. 79) also has a similar classification but here the stress is on individual castes. For example the wood meant for the following castes are : *mā* (*Magifera indica*) for Tēvar *vēmbu* (*Melia azadircahta*) for Brāhmana, *tēkku* (*Tectona grandis*) for Aracar ' king ', *iluppai* (*Bassia sapataceae*) for Ceṭṭiyār and *vēṅkai* (*Pterocarpus marsupium*) for Veḷḷāḷar. Similarly the *Brahmīyacitrakarmaśāstra* gives a lengthy list of wood meant to be used by the *cetur-varnas*. It may be noted here that the type of wood assigned diminished in quality in the order of the *varṇas*. This particular aspect deems a study in its sociological settiṅg.

The details furnished in the *Padmasamhita* (XI : 87-92) are elaborate and deal with image making in particular. It speaks of the wood fit for making sacrificial implements, *tōraṇas* 'arches' *pratima* mage, pedestal for the gods, *vāhanas, rathas, dvjas-thamba* and so on.[16] The names of sixty one trees are presented for making things other than images. The stress in most cases is on the type of wood which has a milky substance in it so that the finished products: (1) survive for a long time, (2) are not damaged by worms and (3) retain their original format for a long time to come. Thus some forty two types of wood are recommended for making images. Though the list of wood, presented in texts, is a lengthy one, in actual practice the utility rests with a select few, for example: *iluppai. āccā, vēṅkai, tēkku, mahiḷam, vāhai, candaṉam, karumarudu* and *pullamarudu*. *Illupai* is considered to be an ideal wood for making temple cars because of the milky substance that it contains. A proverb popular among *śilips* is: *āccā maram aḍi vaṟṟiṉālum illuppai maram pāl vaṟṟātu* even if *āccā* wood dries to the core, *iluppai* won't lose its milky substance'. *Iluppai* is on the list of the flora of Tamil Nadu and easily procurable whereas *tēkku* had to be imported from Kerala or outside when the need was in huge quantities. In the Ceṭṭinādu area (Kāraikkuḍi and its suburbs) *tēkku* was abundantly used by the ceṭṭiyārs, actaully a mercantile and money-leading community but some of the big-shorts called themselves *rāja* 'king' (note *tēkku vis a vis* Aracar), for building their residential quarters, palatical in proportions. Anaffluent community, they used teak

profusely in all their building which was imported from Burma. Consequently the expression, Burma-*tēkku*, was synonimous with quality and aristocracy in Tamil Nadu. Teak was also used for temple edifices in Tamil Nadu, not to speak of Kerala were it is abundantly available, but being in scracity in the Tamil low plains, its usage tended to be limited and so the popularity of *iluppai*, *vāhai* etc.

Selection of wood was expected to be done with great care and attention. It was enjoined that trees of the following type were to be avoided: those found near temples, roads, crematoria, river banks, parks and boundary lines; those two young and too old; those frequented by birds, *nāgas*, *vaksas*, *rāksasas*, *pisacas* and *gandharvas*, broken ones; those found in the vicinity of villages or the residence of *caṇḍāḷas* 'outcasts' and so on.[16] The *Bramīyacitrakarmaśāstra* (Ch. XIX) adds that the following were unfit for *vṛksa-samgraha*: those flowering, those not yieding, those spontaneously worn out, those struck by thunderbolt. those without shoots, those surrounded by creepers, those with barks removed, those broken, those cleaved, those water born, those pierced by moths, those with holes, those infested with worms, those cultivated in living sites, those undesired by one who selects the tree etc. The desirable trees (the context is the selection of a wood for making (*śūla*) are expected to be with milky substance, of fine texture, of *uttama-jāti* 'fine quality' etc. The same text also enjoins the omens that have to be observed while starting the journey for selection of wood. The asterisms auspicious for such a journey are also stipulated. Fulfilling all these conditions, the *sthapati* is asked to utter *mantras* and conduct a prayer before cutting the tree. After having completed the job, the holy wood is expected to be brought to the *śilpaśālā* in a chariot or cart. It is also said that all the conditions sitpulated for *dārūsamgraha* were to be followed assiduously, lest disastrous consequences befall on both the *vajamāna* 'donor' and the sthapati.

Wood carving was a team work. Traditionally the team worked under a master-craftsman called *sthapati*. He was assisted by others like *sūtragrahi* 'surveyor', *taksaka* 'sculptor' (cf. *taccaṉ*) and *vardhahin* 'builder' or 'plasterer'.[17] A team commanded by a

sthapati included 80 *sūtragrahis*, 20 *vardhakis* and 2,000 *taksas*.[18] The system and pattern associated with the team of a *sthapati* gives an indication to the type of division of labour that was involved in giving shape to a piece of art. At the base it was the *taksa* and *vardhaki* who shape to a piece of art while the others were designers. The proportional representation given to the other three types of workers in league with a *sthapati* indicates that these constituted guilds. At times, depending upon the magnitude of work, several *sthapatis* and their due staff, are likely to have constituted a guild. If viewed in this angle the *peruntaccaṉ*, appearing in medieval inscriptions,[19] also seem to be leaders of guilders of craftsman. There is reference to such a team in the *Civañāṉabhōdam* (1 : 3 : 1). In the *Raghuvamsa* of Kāḷidāsa there is a clear reference to *śilpasaṅghaha* 'team of artists'.[20] All this evidence prove the existence of the artists' guilds with means: more the number of artists, higher the technological growth. Spoken with reference to the industry which produced the *tēr* or other *vāhanas*, it is evident, again with due credence to the methods stipulated for procuring wood, that the wood carving was a highly sophisticated and prosperous industry in Tamil Nadu since very ancient times.

WOOD CARVINGS HERITAGE OF TAMIL NADU

The above study gives a broad view of the heritage of Tamil Nadu in wood carvings. Setting aside the domestic and other day to day technical implements, the following associated with temples and commanding a longer span of life may be recorded : images in wood, integral part of the temple lodging wood carvings, *vāhanas* like *tērs* and temple doors. As early as 1961 a census of the temples of Tamil Nadu was undertaken in which the surveyers recorded the various artistic works found in temples. These published reports contain facts and figures regarding the potentiality of the wood carvings of Tamil Nadu. But the field survey undertaken by the present auther revealed the fact that the *Census Reports-Temple of Tamil Nadu* (1961) are imperfect. The schedule used by the surveyers was not sufficient enough to enlist monuments that could have easily escaped their observation. So what is

needed is a through documentation with special reference to wood carvings. In this regard a fresh survey must be undertaken. The *vāhanas* and *tēr* sculptures must be thoroughly surveyed, documented and photographed so that even if the monuments perish they must be available for future study through a photographic archives.

The above project is deemed essential because many of the cars found in Tamil Nadu are facing ruin and images whisked away by pilferers. This is very rampant in the Tirunelvēli district wherein most of the *ters* contain nothing but their wooden framework. A number of cars surveyed by the present author (72/343, 21) remain in a state of disrepair. Such cars by the lapse of time disappear from their location due to either vandalism or burglary. So it is essential to preserve these monuments which are the repository of the artistic heritage of the land in wood carvings. It may be of interest to note here that the Tamil society would require 150.8 billion rupees to produce the total number of cars available now, in which estimation the antique value is not taken into account. These cars would approximately weigh 36,495 tons. Their wood value alone would amount to 36.5 billions. If a team of twenty artists are commissioned to do the job, they would require a time span of 433 years to give shape to the cars available in Tamil Nadu at present. It is at this place we have to pose the query: should not the society be consious of its heritage in wood carvings and the amout of labour, materials and cost of production that their ancients have invested in giving shape to these cars? So as a connoisseur of art one's duty is to preserve these priceless relics of antiquity from destruction of any kind and as a student of art one has to be conscious about their documentation for future works on art.

NOTES AND REFERENCES

1. The other materials are stone, metal, mud, lime-paste, ivory, paints etc.
2. He makes the first categorical statement regarding the replacement of wood and other perishable materials with stone for temple building in the Maṇḍagapaṭṭu Inscription. *vide Epigraphia Indica*, XXVII, p. 17.

3. All references to the text in this part of our narration are based on Prof. V. I. Subramoniyam, *Index of Puṟanāṉūṟu* (Nagerkoyil, 1962). Numerals within brackets denote the verse number as given in the index cited.

4. In latter times even sculptors working in stone adopted the same genre. For example: Rājarāja-Peruntaccaṉ and Kēvātap-Peruntaccaṉ who built the Thañjāvūr and the Uttiramērur temples. *vide.,* Ganapathi *sthpathi,* "*Mayametam* the Tradition of Maya". *Tamil Civilization,* Vol. II, No. 1, pp. 76-84.

5. cf, the them of *Mṛchakaiṭika* of Sūdraka.

6. Raju Kalidos, Temple Cars of Medieval Tamiḻaham (Ph. D thesis, Madurai Kamaraj University), P. 4.

7. The practice of coating the temple cars with oil still persists in Tamil Nadu. *vide.,* Raju Kalidos, *op. cit.,* P. 280. The *Kumāratantram* (44 : 50-1), an āgamic work, also speaks of such a practice.

8. T. V. Mahalingam, *The South Indian Temple Complex* (Dharwar, 1970), p. 3-7.

9. G. Vijaya Venugopal, "Temple door of Brahmadesam Siva temple", *Tamil Civilization* Vol. II, no. 3, pp. 64-7

10. Raju Kalidos, *op. cit*, pp. 40-1.

11. The Kūḍal Aḻagar temple at Madurai, the Vaṭapatraśāyī temple at Srivilliputtūr, the Soumya Nārāyaṇa Perumāḷ temple at Tirukōṭṭiyūr and Sundara Varadatāja Perumāḷ temple at Uttiramērūr are example of *māḍakkōvil* type. The Madurai, Tirukkōṭṭiyūr and Uttiramērūr temples are endowed with *vimānas* of a special type called *asṭāṅgavimnāa.*

12. Raju Kalidos, *op. cit.,* ch. 2 for a detailed study.

13. Raju Kalidos, "The Wood Carvings of Tamil Nadu : An Iconographical Survey". paper presented to the *Journal of the Royal Asiatic Society of Great Britan and Ireland* London.

14. Raju Kalidos, Temple cars of Medieval Tamilagam, pp. 284-287.

15. *Ibid.*, p. 285.

16. *Marīcisamhita* ch.. 27 *Purusottamasamhita* 6 : 8-15, *Visnusamhita* 14 : 50-1., *vide.*, Daniel Smith and K. K. A, Venkatachari, *Vaiṣṇava Iconography* (Madras, 1969), pp. 18-25,

17. Stella Kramrisch, *The Hindu Temple* (Delhi 1976). p. 9n.

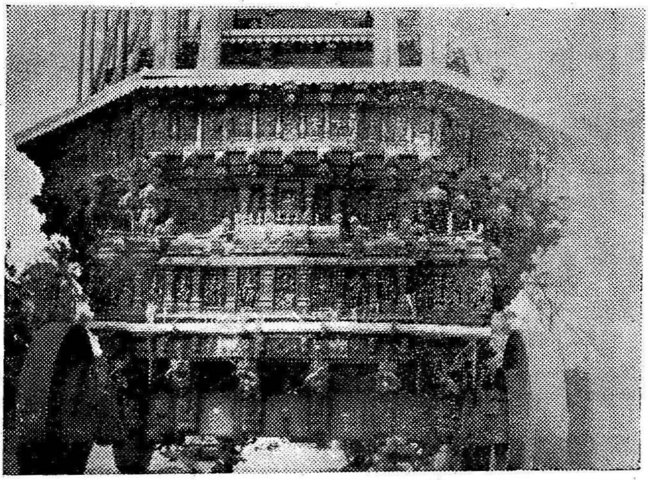
18. Ganapathi sthapati, *loc-cit.*, p, 82.

19. Ref. Kēvātapperuntaccaṉ and Rājarājaperuntaccaṉ, noted above. The *Naṟṟiṇai* (266 & 144) notes two types of artists called *Iḷantaccaṉ* and *Peruntaccaṉ* as authors of two verses in the cited Caṅkam text which points out the cadre relating to junior and senior artists and their proficiency in verse making. It is interesting to compare that in later texts artists were expected to be masters of all subjects. *Sarvaśāstrajñaha,*

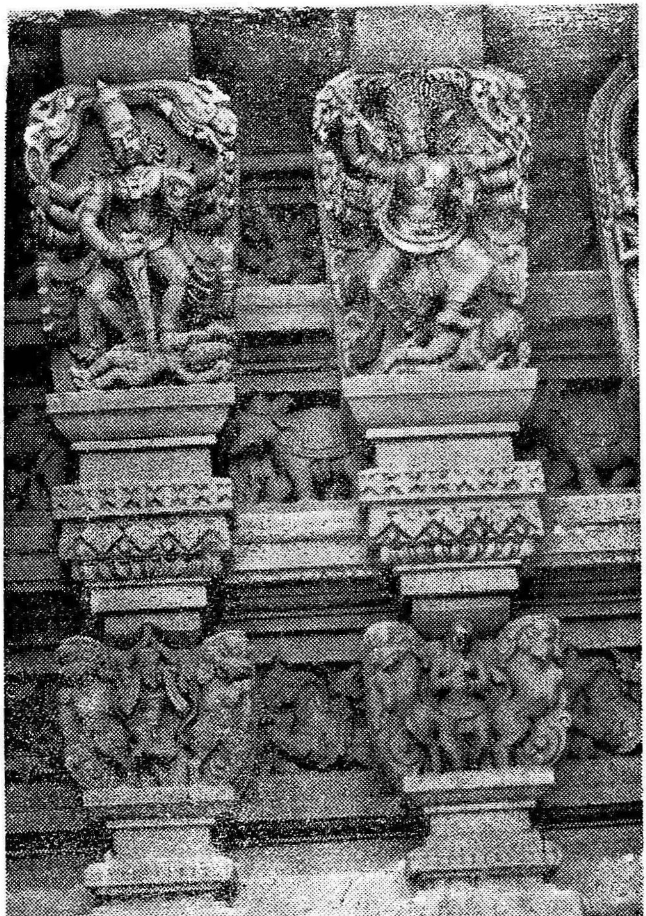
20, B.S. Upadhyaya *India in Kalidasa* (Allahabad, 1947), p. 245.

Abbreviations Adopted in the Text

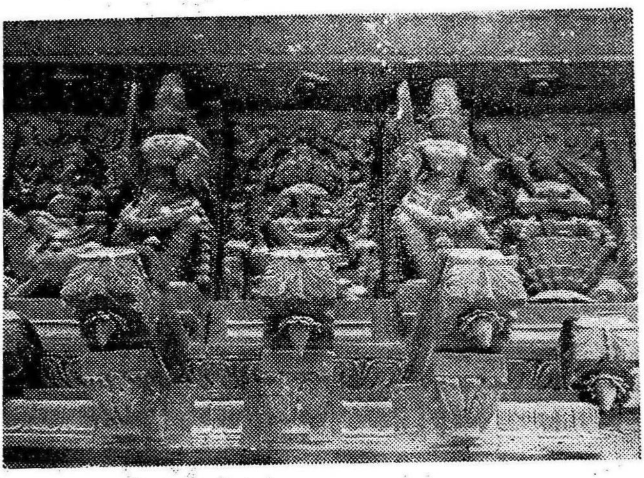
Aham. Ahananuru
Ain. Ainkurunuru
Cilap. Cilappatikaram
Kural. Tirukkural
Mani. Manimekalai
Nar. Narrinai
Pala. Palamoli
Pari. Paripatal
Perum. Perumapnarruppatai
Porunar. Porunararruppatai
Puram. Purananuru
Tol. Porul. Tolkappiyam Porul Atikaram



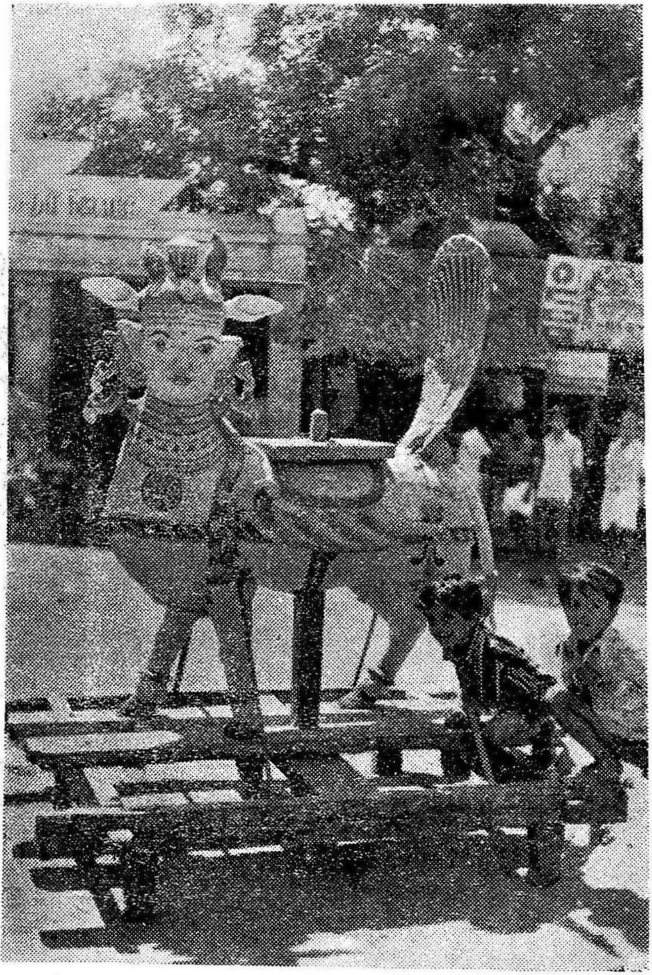
1. Plinth of the Svāmi *tēr* Tyāgarājasvāmi temple, Tiruvārur.



2. A panel of wood carvings from the Svāmi *tēr*, Mīṉākṣī-Sundareśvara temple, Madurai. Illustrations: Vīrabhadra, Cāmuṇḍā (upper), a *ṛṣi* and an attendant girl; in the background: caryatide motifs.



3. A panel of wood carvings from the Tirumuruganātha temple car, Tirumurugaṉpūṇḍi (Coimbatore district). Illustrations: Ārumukha in centre, flanked on either side by attendants, Gaṇapati (right) and Caṇḍikeśvara (left).



4. *Kamadhenu vahana,* Vilvanātha temple, Kaḍayam (Tirunelvēli district).

The Growth and Development of Textile Industry of the Tamils

Dr. V. SUBRAMANIAN

"The Tamils were quite conversant with the technology of fabric production, knitting, dyeing, ornamentation, etc., They were also exporting textiles to other countries and this is known from Silapathikaram''.

1. Introduction

About ten thousand years ago. primitive men started to make flexible fibre assemblies in order to protect himself from the environment. By the time of the ancient civilizations, sophisticated textiles were being made of wool, flax, cotton silk and other flbres. Apart from clothing and bedding, textiles were also used for engineering purposes as ropes and cables, filter media, reinforcement and tented buildings. A high expertise in craft developed in the manufacture of what are very complex systems.

The textile industry is perhaps one of the oldset industries in India which provides employment to masses. Tamils have a great culture and almost all types of fabrics were at one time manufactured by them.

There have been a number of studies (1-4) on the textiles, manufactured by Tamils and these have given a comprehensive idea about the products that were manufactured and also the technology which was known and developed many centuries. If one goes through the Tamil literature from the Sangam Age to the 19th Century, one will notice that a major number of references are available in the Sangam Classics and five great epics. This is because that the Sangam literature dealt with the civilization of Tamils and thus depicted the type of fabrics produced by the

Tamils. Some of the works that deal with the Purana or Prabhandams are not very helpful as they are concerned with the mythology. Thus it will be useful if an analysis is made of the references mentioned in Sangam Classics rather than consulting the later works in Tamil literature.

Before man started wearing the fabrics made from cotton and other fibres, it is generally said that he was using leather goods for protecting his body from the rigours of the weather conditions. Man has been using Keratin technologically for many thousands of years. Animal furs for clothing the body were probably the earliest example of such a use. These later gave way to woven garments constructed from yarns that had been spun from the hair of sheep and goats and other suitable animals.

Numerous papers on the textiles used by Tamils have been published since about 1945 and there is now available a considerable amount of factual information on the textiles. Before presenting, discussing and summarizing this information and its impact on the textile industry of Tamils, it is appropriate to consider them in the light of the present day technology. In this manner one is able to see now the various types of fibres, yarns and fabrics were used by Tamils. For this purpose, this paper is divided into several sections, namely, raw materials, types of yarns and fabrics, the type of equipment used and the finishing treatments such as bleaching dyeing and printing to make them attractive.

2. Raw Materials

The raw materials include plant fibres, cotton, silk and wool fibres. A number of references can be cited from the literature to demonstrate that Tamils have used plant fibres such as barks and leaves for making them into fabrics. Cotton was grown in the fields and this fact is mentioned in Pathuppattu (5) Women folk used flowers and barks of trees. These barks of trees worn around the waist are known as Sitar and Sitaval (19). Mostly the Kurava or Eiynar women used the barks of trees. In some cases, the coir fibre was used for making the dress materials. The saints as well as those who took to Vanaprastha life viz., who had renounced family life

and entered the life of hermits in forests, invariably resorted to the use of skins of animals. Animal fibres, namely, wool and silk [6] were used and rats' hair was also used. These fibres belong to animal fibres and the rat's hair is a specialty fibre which is used for making coats. The epic Silapadhikaram mentions about rats' hair [16]. Thus with the exception of regenerated fibers and synthetic fibres, all the other fibres were used by Tamils several centuries ago.

3. Opening Cleaning and Separation of Cotton Fibres

Before cotton fibres can be used for making them into yarn, it is important that the trash is removed from them. It is amazing to note that the Tamils were quite conversant with the technology of opening of the cotton. That the opened cotton resembles white clouds in the sky has been mentioned in Akananuru [7]. A poem in Nattrinai compares the opened cotton to the waves of the ocean [8].

4. Spinning

There is reason to believe that spinning was done from the opened fibres by hand. It appears that women were experts in the field. The Sangam Poet Tankar Por Kallanar [9] has mentioned that women have been spinning the yarn particularly during night under the faint light of lamp. They were known as Paruttippendu or Paruttippendir [9, 18]. The art of spinning is clearly described in the commentary to Iraiyanar's Ahapporul [13] work. It has been mentioned that the yarn is produced from several cotton fibres by women. There is a reference in Nannul [10] that the catton fibre is spun into yarn. Kalladam (11) mentions about dyed silk yarn which has been laid on a stick. There is a reference to white yarn " Velliya Nool " in Civakacintamani (12).

That rope was being made and used by Tamils is evident from a beautiful poem in Nattrinai (14). In this the term rope is noticed and this is being pulled by two elephants on a surface. The wear and tear of the old rope during the rubbing is stated. This clearly shows that the ropes have been used. Although it is not possible to find out the type of fibre which has been used for making rope,

it is nevertheless clear that cotton might have been used for this purpose. The rope must have been stored for same time and thus would have degraded.

5. reparation of Warp

The warp is known as 'Pavu' in Tamil and there are some references in the literature to demonstrate that the warp was prepared. The preparation of a sheet of yarn has been compared to the sun's ray. It is the normal practice to prepare the sheet of the yarn and the size is applied to the sheet to improve its strength and abrasion resistance. This sheet of yarn exposed to the sun for drying it. This type of warp preparation is the one normally practiced by the handloom weavers even today.

6. Weaving

The technology of weaving was well known to Tamils They had the expertise in manufacturing the fabrics from cotton and silk yarns. A very fine fabric consisting of large number of ends and picks has been produced. In Sangam Age, finely woven fabric has been compared with the slough of the smoke, the foam of milk, the cast-off skin of a snake, a thin layer from a bamboo stick and so on. The white torrent of water falling from a high hill has been compared to the finely woven cloth of those times. The Periplus [27] has mentioned about the excellent quality of the fabrics produced by the Tamils, particularly in Uraiyur. In Silapadhikaram [16] as many as thirty two varieties of fabrics have been mentioned, It is also evident that some varieties of fine fabrics have been transported to Tamilagam. Thus Kalingam, which is described to be of superfine quality, was imported from the Kalinga Country [25].

Silk fibre was used for making fabrics and Porunar-ruppadai [15] speaks of a fine fabric made out of this fibre. Silk fabric, though woven in Tamilagam during the Sangam Age. People who were involved in the production and marketing of textile, fabrics from cotton and silk fibres are known as "Karugars". Most of the fabrics should have ben manufactured

on the handlooms as there are many references to these in the literature.

7. Knitting

Knitting is another method by which fabrics can be manufactured. There are references to knitting in Tamil literature to show that knitted fabrics were made from silk and cotton yarns by stitching them with needles (6).

8. Finishes given to Fabrics

That fabrics manufactured by Tamils were also given finishing treatments can be noticed from the Tamil literature. There is a reference to the starch finish given to the fabric in Madurai-kkanchi (17). Even today starch finish is given to some fabrics such as sarees and mulmul sarees, Tondaiman (19) gave a fabric which was very white to panar. This is an indication that the fabric was bleached and the Tamils were conversant with the technology of bleaching. Women, who were the followers of Lord Muruga, were wearing a fabric dyed with a fast colour. The rich people who were in the habit of going in the evening by the ehicle had worn a fabric which was dyed with red colour. This shows that Tamils had the knowledge of dyeing fabrics with natural dyes. Some of the dyes used appear to be very fast dyes and red and green colours have been used.

In Arikkamedu [2], two tanks for dyeing fabrics were found which demonstrate that Tamils were conversant with the technology of dyeing. That the fabrics were perfumed and how they were given this treatment have been given in a number of references [2].

9. Decoration, Ornamentation etc.

Tamils also knew the art of embellishing the babrics with embroidery. In Puram [2], a reference to this effect is noticed in that the fabric was emblellished with embroidery and design. Porunarruppadai also mentions about embroidering the fabric made from fine cloth [15],

It is said that Karikalan [15] presented a fabric to porunar which had a good workmenship. He seems to have also presented a silk fabric with an attractive border.

Besides fabrics, tape fabrics known as 'Kachai' were also prevalent in Tamilagam. In Kurinchippattu [5], the hero has been found to be with an attractive ribbon fabric.

10. Heavy Fabrics

A reference to the heavy canvas fabric, which was used in the tent, is noticed in Mullaippattu [20].

11. Non-Woven Fabrics

These are manufactured from fibres without converting them to yarn. There are a number of evidences in the Sangam literature which show that non-woven fabrics made from fibroces materials were used by Tamils. Pathitruppathu [21] mentions about "Noolak Kalingam" which is nothing but a non-woven fabric.

The Tamils were also exporting textiles to other countries and this is known from Silapadhikaram. When one surveys the Sangam literature and the literature of the later period, namely, Silapadhikaram one will notice the extent of advancement in knowledge. It was already pointed out that 'Kazhagar' were the people who were actively involved in the manufacture and marketing of textile goods.

There is an evidence of the shuttle in Civakacintamani [12]. The pirn is a package which is in the shuttle and constitutes the weft in the fabric. This fact is mentioned in a poem in Kambaramayanam [21a]. The yarn is wound into a package and this is very essential in a fabric.

12. Trade

Pillay [2] has stated that Panduraka blankets and excellent cotton cloth were exported from Madurai. At Kavirippumpattinam or Puhar textile goods were sold. On the roof of each

shop, a flag was flying aloft to indicate the articles available for sale. Wholesale dealers had their names as well as the names of the contents superscribed on the covered packets. It has also been stated that during Chola period, excellent napkins and linen veils were made and they were exported. They also included cottonstuffs with coloured silk threads and cottonstuffs.

Some information on the textile industry in South India during the 14th Century from the observations of a visitor [27], namely, Portuguese Duarte Barbosa is available. It has been stated that the town of Shaliyat (near Calicut) was already famous for its cotton fabrics. According to Ma Huan, a variety of cotton cloth of standard size, each of which fetched as much as eight or ten gold pieces, was imported into Calicut from the adjoining territory of "Kanpar" (probably Kayampadai, a former name of Coimbatore). A kind of silk cloth with coloured stripes was produced by the people of this country coloured cotton fabrices and flowered chintz were produced by same cities in Malabar. The printed cotton colths of Pulicat were having good market. Among the products of the Maldive islands, strikingly enough, Bar-bosa, in the early sixteenth century, noticed very rich cotton, silk and gold cloths. The thin kerchiefs worn by the men in these islands around their caps have been found to be finely wrought and perfect as to be beyond the capacity of the Portuguese craftsmen.

There is also a reference to the tax levied on the loom during the Chola period [26]. It has been stated that for each loom, one saree was given as tax.

Uraiyur was famous for weaving trade. The excavations of Arikkamedu in 1945 have shown that the Yavana's housing colony was used as an entrepor for Romans. We also hear about a Roman factory where the fabrics produced in Uraiyur were finished according to some specifications.

There are ample references to illustrate that during the Chola [25, 26] regime a large quantity of dyed silk fabrics

and cotton yarns was exported to China. Uraiyur, Kanchipuram and Madurai were in forefront in textile manufacture. The handloom weavers were known as 'Pattasaliyar' and they were living in a place called 'Padi' consisting of four roads in Kanchipuram.

13. Conclusion

Thus, from the foregoing, it is clear that Tamils were quite conversant with the technology of fabric production. knitting, dyeing, ornamentation, etc., The Textile Industry in South India probably paved the way for the starting of the Textile Mills in Coimbatore and Madurai. That the handlooms are continuing in Kanchipuram is an indication that traditional cultures have been preserved even today.

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Leather Tanning Techniques of the Tamils of Cankam Period

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"If one views Tamil literature, one can appreciate that, how they were well versed and skilled in the process of leather manufacture. The Cankam works clearly explain the good knowledge of the Tamils in the tanning, and processing technology of leather. The leather technology of Tamils is the pioneering effort made in this field in India."

Leather is a natural fibrous material of tridimensional weave obtained from animal hides and skins. Primitive man almos certainly owed his survival, to a great extent, to the discovery of the diversity of ways in which, he could utilise anima, skins. Just as our modern world is largely dependent on coall oil, nuclear energy and their derivatives developed in comparatively recent times, so also our ancestors learned, that the animals they trapped and killed could provide almost everything they needed to make life relatively easy and comfortable.

Though the raw hides and skins of animals were used by primitive man out of necessity, after civilisation, the processing of leather came into existence, not only to give aesthetic value to it, but also to avoid decay of the raw hides and skins.

The use of skins began so early in the history of the human race, that it is impossible to fix any date as to its commencement, although it may generally be said, that it began, when man made his first technological attempts after civilisation. The art of leather making is of course, of a later date, but it could not have originated later than two or three centuries after man began the use of skin. There is however no data from which the date of

origin of the art can, in anyway, be calculated and it may rightly be said to have sprung into existence from the period of antiquity.

Details of leather and leather crafts, found in ancient Greek, Latin, Hebrew, Sanskrit and in Tamil literatures indicate, that leather was used even in prehistoric periods. Leather articles which were thirty three centuries old have been found in Egypt and were still in condition. Chris H. Groneman states, that "Roman, in the time of Caesor made wide use of leather, since their methods of tanning were developed to a relatively high degree[1]."

Royle[2] says that, leather tanning is a chemical art with which the Hindus have long been acquainted. Rig veda - one of the oldest book in sanskrit literature speak about the tanning and various leather crafts. Certain details in tanning processes like stretching and wetting hides are also given. Rig veda, written about 3000 B. C. indicates a civilization in India, atleast as advanced as the best of ancient civilizations left in record. It therefore any art or industry is mentioned must have been practiced from a longtime before and although it is not possible to fix dates, it may be safely assumed that, if the industry did not exist in the country before it come in with the race, which produced the Rig veda. It is therefore, claimed that, the leather industry, in India dates back to the entry of the Aryans in India. Now the Aryans invaded India between 3500 and 4000 B. C. and this is the probable date, of the origin of the leather industry in this land.

Apart from Rig Veda, details about leather and leather crafts are also found in the Sanskrit works like Brahmanas, Puranas, Manudharma, Ramayana, Mahabharatha and other works[3]. Though references about leather and leather crafts are found, there are no available samples of this period, unlike in Egypt, where large numbers were excavated.

Tamil, the only existing language of the ancient group, which is still in use, gives a number of details on the art of leather processing and on crafts, highlighting the nature of leathers used and the intricacies of leather processing.

Leather was used by ancient Tamils for protection from nature in the form of garments,[4] footwear,[5] gloves[6] and as protective shields[7] and armour plates[8] in the war field. Apart from protection, they used leather for aesthetic pleasure, by using leather in musical instruments and in leather puppetry. Thirte four leather based percussion instruments were described in Tamil literature[9]. They were classified into seven groups and specific type of leather was used for each instrument. The instruments were structured in accordance with their end use. It is interesting to note, that specific words were used for describing specific type of instrument.[10] Tamils used hides and skins of different animals for the leather crafts and details were obtained from caṅkam works[11] about hides and skins of tiger, deer, goat, ox, varanous etc.

The above said leather crafts of Tamils were made from hides and skins obtained from different animals. Flayed hides and skins of animals were not used directly since, these hides and skins will be putrified on ageing. So it is necessary to preserve the skins by some process. This process of protecting eather from the disorder is known as tanning.

Tamil literature gives, very clear picture about the process of tanning of the Tamils. Details were available in caṅkam works about different processes used in the manufacture of leather. Before going into the details of Tamil literature on tanning, let us know some of the scientific details about leather and tanning. With this background, if we view the literature, then we can understand in a better way about the various processes used by Tamils for tanning leather.

Hides and skins are mainly composed of the following chemical constituents viz. 1) water 2) proteins 3) lipids 4) carbo-hydrates and 5) mineral salts. Raw hides and skins are mainly composed of water. In general it is between 60-70% of the total weight of a skin. The holding capacity of the skin is mainly due to the proteins present in it.

Proteins accounts for about 35% in the raw hides and skins. The most important protein which is fibrous in nature and the major constituent of leather is called ***Collagen.*** These collagen fibres are made out by small units called fibrils.

The lipid content of hides and skins varies from one to another and depends on age, sex etc. of the animals. Most of the lipids are contained with fat cells. Hides and skins contain only small proportion of carbohydrates, which may be of various types. The principal mineral constituents of hides and skins are sodium, potassium, calcium, magnesium and Phosphorous.

The chemical composition of raw hides and skins consisting besides water mainly of proteins, makes them very liable to attack by microorganisms. The micro-organisms decompose or as it is technically called " putrify ", hides and skins and eventually makes them unsuitable for the manufacture of good quality leather. By tanning, we can avoid putrification and maintain the quality of leather.

Flayed skins are first preserved by a process called "curing". The curing can be done by adding salt or by drying it in sun light. The cured hides and skins are wetted with water and to it lime is added. This is known as "liming". The primary object of liming is to loosen the hair present in the hides and skins. Then the unwanted flesh and the hair are easily removed. The former process is called "fleshing" and the later "unhairing". At this stage, the hide id called "pelt". The pelt is then delimed, bated and then tanned.

Tanning was done by two ways. One by using the vegetable extracts and the other by using mineral salts. The former process is one of the oldest method of tanning and the leather processed by this method is called vegetable tanned leather. These tanned leathers will be hard and so, fat is added to the leather in order to make the leather soft and some what stretchy. This process is called "fating".

These fatted leathers are dyed and then finally finished. Dyeing of leather is to give the leather, a proper base colour. Dyeing of leather presents some unique problems. Since leather is a three dimensional network of fibres, penetration of the dye is of great practical importance. Fixation and penetration of the leather is greatly altered by tannage and by the nature of the fatliquor used (ionic nature). Though the above said process is used for leather processing, the quantity and duration of the process is varied for getting specific type of leathers. Therefore, the physical and chemical properties of these leathers will vary accordingly.

With these background of tanning process, if one views Tamil literature, one can appreciate that, how they were well versed and skilled in the process of leather manufacture. Now etus see about different processes, described in Tamil literature.

Unhairing, fleshing

When we go into the details about leather processing patiṟṟuppattu[12] a book written during caṅkam age, gives details about the processing of spotted deers skin.

" puḷḷi yiraḷait tōl ūn utirttut
titu kaḷaintu eñciya tikaḻvitu paṇṭir "

In these lines it is said that the deer skin was processed by removing the flesh on the innerside and also other unwanted ingredients of the skin. In these lines, the words *tōl ūn utirttu* denotes about the fleshing and *titu kaḷaintu* denotes the unhairing process in leather manufacture.

" tēyvai venkāḷ puraiyum vicipini
vēyvai kānā viruntiṟ pōrvai "

These lines of puṟanāṉūṟu [13] describes about the property of leather, which is used for a musical instrument. The leather is without any flesh and it is sandalwood white in colour. In these lines the word *Vēyvai* refers to the flesh and here gain this lines also denote about the fleshing. It is interesting to note that, the leather obtained after liming and fleshing is off white in colour.

Vegetable tanning

Paripāṭal [14] gives a detailed description about the tanning process.

" Toṭṭatai taippamai carumattir ṟāliyai tāmarai
tuppamai tuvarnir tuṟaimaṟai aḷuttiya
verinat tōloṭu muḷumayir miṭainta
varimali aravuri vaḷpu kaṇṭu aṉṉa
purimeṉ pilip pōḷpuṉai aṭaiyal "

In these lines, description is made about the footwear of Lord Muruga and gives the details and types of leathers used in the construction of 'aṯaiyal'—a type of footwear. Leather made after processing it by immersing it in red coloured tanliquor was used alongwith, hairon skins having patterned surface, which is very thin like that of snake skin was used for this aṭaiyal,

In the above said paripāṭal lines, *verīnet* tōl refers to the back region of the skin. Normally this region of the skiu will have very high strength. *Tuvar nīr* refer to the water in which vegetable tannin is dissolved. *Tuṟaimaṟai aḷuttiya*, stresses that, the leather was prepared by immersing the pelt completely into the tanliquor. If the pelt is not immersed completely, tannig of it will not be complet and only the surfaces of eather will be tanned and the middle portion of the leather will not be completely tanned, making the leather a case hardened one. The above mentioned paripāṭal lines shows that. Tamils has understood this problem in the tanning process. *Tāmaṟəi tuppamai ruvarnīr* implies that the tanliquor was red n colour. It is quite interesting to note, that even in this scientific age, the sole leather for footwear is processed only by the drocess as refered by paripātal.

The last two lines of the above mentioned paripatal states that aṭaiyal was prepared by hairon tanned, patterned surfaced thin skins like that of snakes was also used for the construction of the footwear. From this one can guess, that the hairon tanned skin was used as the upper leather and the vegetable tanned leather was used as sole in aṭaiyal. The words *Muḷumayir miṭainta* shows that, Tamils were well versed with the hairon tannage process also. The word *varimali* implies, that

the upper leather used for this footwear has patterned surface, like the one present in deer and tiger skins.

Fatting

> " Pacaipaṭu paccai neytōytu aṉṉa
> cēyuyar ciṉaiya māccirai ...."

This lines from Akanāṉūṟu[15] informs that, fat was added to leathers. This gives that Tamils know about the fatliquoring of leathers also. In these lines the words *Pacai* and *paccai* refers to fat and leather respectively. The words *pacai puṭu paccai* informs, that the leather is without fat and to it fat is addeds. During different processes in leather manufacture, especially during liming the natural lipids-fats present in hides and skin, is completely removed. In this situation if we dry the tanned leather, it will become bony. In order to make the leather soft and stretchy, oil (ney) was added to the leather and even today, a variety of oils, fats obtained from vegetable, animal, marine sources are used individually or in blends or with mixtures of synthetic oils.

Dyeing

Lot of details about dyeing are found in the books on the subject "āṟṟuppaṭai[16]" of caṅkan period. Leathers with the colours like blue, green, different shades of red, golden etc. are refered in this books.

> " nīluṉ paccai nira maṟaittu aṭaicciya
> tōl eri pāntiliṉ "
>
> " pācilai oḷitta parāraip pātiri
> vaḷḷital māmalar vayirriṭai vakut ataṉ
> uḷḷakam puraiyum ūttuṟu paccai "

In the first couplet of lines [17], *nilun paccai* implies, that the blue colour have penetrated inside and is absorbed well by the leather. The line

> " uḷḷakam puraiyum ūttuṟu paccai[18]"

also refers to the same penetration of the dye. These references give an image about the penetration of the dye and the affinity of the leather for the dye used by Tamils.

Adding to the details about the processing of leather, literature also states, that these processed leathers of Tamils were as strong as that or iron [19] and had very high technical value. These leathers were also paid as tribute to the kinds alongwith gold and other valuable materials[20]. These gives an idea about the quality of the leather prepared and used by Tamils.

The above said caṅkam works clearly explain the good knowledge of the Tamils in the tanning, and processing technology of leather. Their technology is developing with the time and at present one sees advanced technological developments in this field. In otherwords, we may say, that the leather technology of Tamils is the pioneering effort made in this field in India. Further the major part of the tanneries of India are located in Tamilnadu and it contributes 80 percent of the export of the finished leather goods to various countries. Tanning industry itself earns a foreign exchange of 400 crores to the nation today.

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Folk-art as Vocation

Dr. A. N. PERUMAL

"Three things have to be identified when considering folk-art. When it is related to religion its concern its more with the religious background than with artistic self-expression."

The Present Situation

The Tamil tradition as reflected in folk-art reveals something deeply felt and abiding in the community. Supported as this art was by the pervasive influence of epics, legends and the venerated lives of poets and mystics, the art among the folk in Tamil territory was a living one. It was found in every sector of rural life pulsating it with something that continued for many millenia.

Like every other form of art folk-art revealed what was latest and inherent in rural societies unaffected by the influences which we call modern. The beauty and even novelty in folk-art in whatever form it survives to-day is something which attracts. Untill very recently this art was able to live despite the suffocation the rural areas suffered under the influences of Cinema, TV, Radio and the like. From another angle rural areas have been caught in the speed of events of the modern world that to-day the genuine folk-art is almost extinct or dead.

Unlike the disciplined classical art forms which have servived fortunately through a long line of patronage, folk-art has been allowed to meander without the needed sympathy, support and relevance to a living tradition. The folk in Tamil were very enlightened because their literature was for the most part oral. Hence the earlier arts flowed out of the natural impulses of man which suffered no restrictions of rules and regulation.

Since the folk as a whole were highly literate and cultured, the art belonging to them was very disciplined even if they were not

governed by rules and regulations. What has suffocated folk-art is the death of tha living tradition. In its place has come as if into a vacuum all the aberrations and curruptions of the modern world.

The nature of Tamil folk-art

An oral and meaningful tradition, though unsophisticated, grew in Tamil territory on account of pervasive religious influences. These influences from the more disciplined musical, poetical, artistic and dramatic forms gripped the common mind. This in turn gave expression to folk-art, music and dance. Such expressions carried meaning to all the folk and enabled them to remain cultured as distrinct from the modern aims of literacy.

Religion therefore became a living factor for life in its entirety. It did not segregate the people as between literate and illiterate or learned and unlearned. The role played by folk-art was to enliven the common mind, if it did not at the same time enlighten it. It could thus be seen that folk-art played a role in rituals and ceremonies giving them a sense or discipline and beauty.

The whole community represented in the folk lived in art. Religion therefore was able to gather meaning and significance to the average mind. There was no divorce between art and religion. In the co-inherence of art and religion life ceased to be dull, dreary and monotonous. Art thus became a vocation and a calling for the whole community.

The present commercial outlook which has spread like a plague throughout the country naturally has had its devastating effect on folk-art. Nothing is revered in the modern mind than to touch of Midas. This monetary impulse in turn created the professional. The beginning of the decline is therefore to be seen in the professional artiste. Where the artiste was able to survive wholesomely to-day he has degenerated to the level of a quack.

The acrobatic element now seen masquerading as folk-art shows how far the degeneracy has gone. The community life of the village centred round the temple has been shattered in

a singe generation of quack practice. Pure art is one deeply concerned with discipline and has no room for the acrobat or imitator.

The alarming degeneracy and decade is part of the aberrations of the modern world. That even in the remotest rural areas there is such precipitate decline, is one that calls for immediate remedial measures.

A few vocational art-forms

Kavadi Attam is a form of dance, rich in its ritualistic, rhythmic and varied tempo. That is because it is inspired and creative, coming as it does from deep devotion and abiding faith. There is an intricate pattern of rhythmic movements which comesout of ecstatic fervour. Besides there is a vast volume of oral poetry set to music which the artist interprets in pure rhythm.

In the worship of Lord Murugan which had taken a strong hold on the Tamil mind, *Kavadi Attam* may be said as most expressive and symbolic. The oral tradition had bestowed a vast volume of poetry set to music and rhythm. The Kavadi became symbolic of the ecstasy that naturally flowed from both the poetry and the music. This gripped the rural mind and made way for the Kavadi as a *sine qua non* of Murugan worship.

Over long periods of time the customs and practices which formed part of the worship of Lord Murugan became more or less permanent in the rural landscape. To-day the general degeneracy in all things has affected this dance form so much so the desire is to please and not to create feeling. When a pilgrim becomes part of a mob the religious impulse either fades or recedes. The result is that the art has become debased and self-assertive.

The wholesomeness of Kavadi Attam, its dedication, rhythm and beauty are to-day lost in the commercial sale of the art. The nuances, intricate movements of limbs and the ecstasy of the dancer has given way to mere tempo. The intention here is to please the audience, not to surrender the self. The desire to make money at the expense of a vocation and even a surrender has caused great harm to this art-form.

The same may be said to apply to *Karaka Attam* associated with the worship of Mariyamman. With a pot fuli of water placed most delicately on the head, the female dancer gets into ecstasy. Here again, despite the vigorous movement and quick rhythm, the pot remains perfectly poised on the head. The stillness in the movement captiuates even an onlooker and moves him to ecstacy. It is not the abiding faith alone, but a sense of serenity and equipoise which marks out the whole ritual in this dance.

Art and religion become intermingled in the Karaka Attam Here too a degencracy is visible where instead of the holy water in the pot and the dancer being in a trance, the professional dancer of to-day fills the pot with rice which is anti-traditional. The one-pointedness of the earlier dancer has given way to the professional who wants to display. This is one of the contributory causes of folk-art degenerating under modern impulses.

Another entirely commercial art-form to-day is *villuppāttu* or bow-song which at one time was very popular in South Tamil Nadu. A group comprises this performance and the stories rendered generally were related to village deities. Popular legends or incidents from the epics or *Puranas* were related to the accompaniment of a particular type of instrument. This instrument can produce both the beat and the music which is sung to illustrate the theme.

Villppāttu artistes are even today vocational though audiences are becoming fewer and far between. Due to the tradition dying where the people were concerned with religious values, the *villuppattu* artistes are today compelled to sing even at functions unconnected with religion.

In certain rural areas of Tamilnadu there is another form of folk-dance called *Kaniyan kuttu* which is ritualistic. Both song and dance go to-gether and their is great ecstasy and fervour because it has close connection with a village deity named *Sudalai Mādan* said to be the son of Lord Siva. The artistes themselves believe that they are of celestial origin which makes the art ritualistic.

This background of belief and thinking calls for rigorous penance before the dance is performed. The artiste here is a

purely dedicated one coming as he does with the fervour needed for a vigorous dance in tune with the Divine Dancer. There is also the sacrifice of the dancer's blood taken off the fore-arm. At its peak there is a trance element coming into forcus which makes the dance highly ritualistic, if not dedicated.

Kaniyan Āttam too is now ceasing to be religious and vocational. Artistes now perform for money and have made a trade of a dedicated form. This dance sect is confined to Kanyakumari and Tirunelveli districts and the numbers engaged in it are fast dwindling.

Folk-dance with a historical background called POIKKAL KUTIRAI ATTAM, meaning dummy horse dance, is even to-day found in many parts of Tamilnadu. Its origin may be traced to the Maharashtra period of Thanjavur in which many victories came to King Sivaji. Though it relates to a historical event, its popularity has spread depending on the artifices and skills of those who can perform. Unconnected though it is with religion, it has been found to be rewarding for many during festive occasions.

Many families have taken to this dance as a means of livelihood. Most people who witness the dance are unaware of the historical origin. It is an artifice where much depends on how cleverly the horse is made and how well it can articulate.

Terukkuttu is a play set to music which at one time was very popular in the rural areas of Tamilnadu. In a way this was the fore-runner of Tamil drama on the screen and elsewhere. Where it differs from the present scenario is that it lacks the glamour of modern lights and other gadgetry.

The emphasis on Terukkuttu was the repetition of our vocabulary already known to the common man in the form of folk-tales and music. The themes of the great dramas popular in the Tamil mind came to be reflected here in simple and direct forms of expression. For example the story of Kannak

became a simple rendering taken away from the classical form so that it capitavated the popular imagination. Those who lived in this tradition had a wholesome understanding of traditional virtues such as chastity. This play therefore had a greater impact on the average mind than the propagandist and the overplayed themes of the modern cinema. Where the latter has corrupted, the former has been a steadying influence on the out look and life of the Tamil people.

Even here, in the attempt to imitate the cheap and commercial values of cinema, *Terrukkuttu* has to-day fallen into evil days. *Terrukkuttu* created a vocational interest which was deep and abiding. Its decline to-day as peregrinating troupes seek to satisfy base and vulgar emotions is a matter for great regret.

Vocational Validity in folk-art

Three things have to be identified when considering folk-art. When it is related to religion its concern is more with the religious background than with artistic self-expression. Professional outlook yields to the single intention of captivating the ordinary mind. This mind is best served by some form or other of excitement. Pure art, on the other hand, is deeply concerned with the discipline associated with it and will not yield to any manner of imitation.

Whilst thinking of folk-art as applied to the Dravidian tradition one has to be extremely careful not to be influenced by the prejudices of many modern minds regarding the religious growth. It has to be stated clearly and emphatically that the whole vast compendium of Tamil learning, oral or written, was the outcome of purposive goals understood as religion.

There was nothing vague, imprecise or ungrammatical in this understanding. It was a forward march which elevated the whole human personality. The term 'folk' has to-day taken a corrupt and derogatory meaning. But in tradition — (Tamil being the most valuable and recognizable tradition) — 'folk' implied humanity on the march forward. Nowhere in the folk-tradition of Tamil was there room for retrogression. On the other hand what marks out modern civilization is its steady and precipitate decline.

Folk-art in Tamil expressed deeply the temper and maturity of the Dravidan mind. This mind had reached the peak of artistic achievement. It was as if the very kingdom of Heaven had been brought down to earth because the people on the whole knew the certainties and abiding values needed for human existence. The tragedy is heightened even more that, within a few generations of mass education, we have succeded in eliminating the groundwork of Tamil psyche and what is more all that can be marked out as the distinct Tamil contribution to the human race.

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Early External Commercial Contacts of Tamil Nadu

Dr. RANGARAJAN VIJAYALAKSHMY

"Mostly the foreign trade of Tamil Nadu was carried out with the help of ships. The Cankam works mention various ypes of boats and ships used by Tamilians."

Tamil Nadu has had flourishing trade contacts with foreign countries from the earlier times both from the land and sea. The undivided early India which stretched out as a large triangle from the Himalayas, had an area of about 1, 581, 410 square miles. Its length from the North to the South was about 2,500 miles and its maximum breadth from the east to the west was nearly 1,500 miles. To its North were the countries of Tibet and Nepal, on its North west, Afghanistan and Persia and on its North - East, Burma and Chiña. At the southern tip was Ceylon. It was surrounded by the Arabian Sea on its west, the Indian ocean on its South and the Bay of Bengal on its East. The boundaries of Ancient Tamiḻakam were the mountain Venkaṭa on the North, the Kanyākumari in the south, the Bay of Bengal in the east and the Arabian Sea in the west.

In the absence of proper historical records, one has to dspend only on classical writings, and foreign notices of early travellers to know about the Commercial Contacts of ancient Tamil Nadu.

Records which mention about the early Commercial contacts

Among the foreign notices the earliest rational account of India is made by Herodotus, the father of history in the fifth century B. C. But about South India it is Megesthenes (305

B. C.) who made direct notice in his account of the Pandyan Kingdom. Apart from his records, the accounts of Pankou, the chinese writer (2nd Century B. C.), Strabo, Pliny, the Periplus of the Erythraen Sea, Aelian, Marcian of Heraclea, Fa - Hien, Gunavaram, Ma Twan Lin (C. 550-600 A.D), Yuan Chwang, I-tsing and various other chinese travellers also add information to the knowledge about the commercial contacts of Tamiḻakam. The information found here though at times, scanty or exaggerated, the knowledge of the real commercial connections can be checked when they are corroborated by early Tamil literature. The Caṅkam works,[1] the Cilappatikāram[2] the first epic of Tamiḻakam and the Maṇimēkalai [3]serve as important testimonials of early commercial contacts of the Tamil land.

Sea Routes and Land Routes of Ancient India

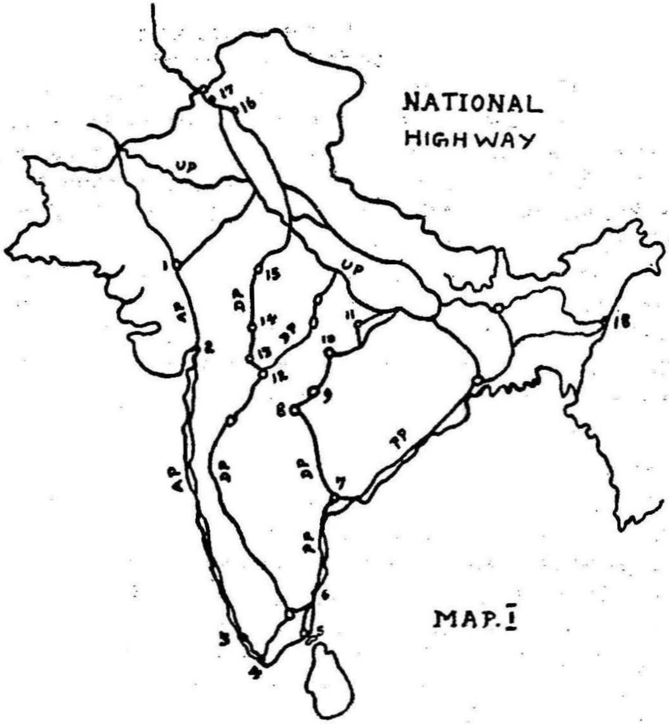
Land Routes

The trade routes of a country depend mostly on its geographical conditions. These trade routes, mainly land routes were established after innumerable experiences of perils and adventures of many nomadic tribes who went in search of fodder for their flocks, and tribes who went to trade from one place to another. The fact that the routs were infested with wild animals and robbers, made the travellers from well organised caravans which provided safty and comfort to their members. There were a few well known trade routes which connected India with its neighbouring countries. Pubbanapatha (Eastern Highway), Apranta Patha (Western Highway) and Dakhina Patha (Southern Highway) are among them. (See map. I) South India though by nature divided from North India by the hills Satpura and Vindhya, had its trade routes through these hills. There were about four to five routes which connected Tamiḻakam to the other parts of India. Among the land routes of south of India

1. Pattuppāṭṭu and Eṭṭuttokai are considered to be Caṅkam works here.

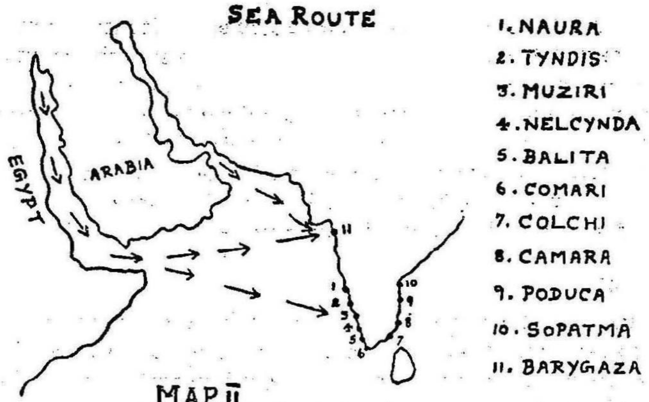
2. Iḷaṅkōvatikal Cilappatikaram, edited by U. V. Saminatha Iyer, 8th edition, (Madras, 1968)

3. Cittalaiccattaṉar, Manimēkalai, edited by U. V. Saminatha Iyer, (Madras, 1931)



1. Mohenjodaro
2. Surata
3. Trivandrum
4. Kanyakumari
5. Rameswaram
6. Kavirippumpattinam
7. Bejvada
8. Vatsalagulma
9. Nagapur
10. Tripuri
11. Sahajati
12. Khandava Vana
13. Mahismati
14. Ujjain
15. Matsya
16. Taxila
17. Purusapura
18. Manipur

UP — Uttara Patha (Northern Highway)
DP – Dakhina Patha (Southern Highway)
PP – Pubbanta Patha (Eastern Highway)
AP – Apranta Patha (Western Highway)



MAP. II

rom the North, Dakhiṇapatha (or Dakṣiṇāpatha) is well known and this lay to the South of Ganges. Kauṭilya iṇ his Arthasāstra mentions that the trade routes leading to the southern India were preferable from the point of view of the commercial and convenience points of view as they traversed a large number of mines. These were frequented by people, less expensive and plentiful in the availability of merchandise alongside.[4] The Dakhiṇapatha route covered Vidiśā. Utkala, Aranti, Māhismati, Mahārāṣṭra, Andhaka (Āndhra), Sabara (Sabara), Dāmila (Tamil), kolakā (Chola), Pāṇḍeya, Kerala and Satiputra.[5] All the trade routes cutting through each state were known after the name of that particular state. For example the trade routes of Vidiśā were known as Vidiśa Dakṣiṇāpatha[6]. There were many roads leading to the Dakiṣ-ṇāpatha[7] and important rivers like Godāvari, Narmadā, Kāveri,

4. Kawtilya, Arthaśāstra, edited by T. Ganapathi Sastri, (Mysore, 1924) Book VII, Chap. XII, p. 328. text. p. 300.
5. Prakash Charan Prasad, Foreign trade and commerce in Ancient India (Delhi, 1977) p. 111.
6. Ibid. P. III.
7. "etc gacchanti bahavah Panthāno dakṣiṇāpatham" Mahābhārata, Edited by T. R. Krishnacharya and T. R. Vysacharya, (Bombay 1905-16), Vanaparva 58.2

Kṛṣṇā, Venā and Talavāha were connected to this route. Other than this Dakhiṇāpatha, there were also other routes through which the South of India was connected to the North and from there to other countries. The Pubbantha Patha (Eastern Highway) is one of them and it extended from Maṇipura (Assam) to Kanyākumāri. It was connected by four trade routes, i. Gauḍa Dwārka, ii. Kataka-Puri, iii. Kāverippaṭṭinam Nagapaṭṭinam and iv. Maturai-Rāmeśvaraṁ.

Water Routes

There were three types of water routes Viz. the river route (நதிவழி) canal route (கால்வாய் வழி) and sea route (முந்நீர்வழி). The sea route was of two types, one which went around India along its coast and the other the overseas route. The main river routes in the south were from Kāveri, Godāvari and Kṛṣṇa. There were also artificial canals which connected the land to these rivers which lead to the great sea. The sea route along the coast was favoured by foreign and local traders as it was less risky than the overseas trade. The coastal route had also another advantage that it linked almost all the important ports of india. The overseas route across the sea connected many foreign countries to India due to its strategic situation.

Early Indians were also skilled in the art of navigation and their sea trade was carried out through Indian ocean, the Bay of Bengal and the Arabian sea. These routes were connectsd to routes in the Persian Gulf, the Red Sea and the Mediterranean Sea. "It is likely that there was a coastal trade between South India and the Indus valley and thence to Persian Gulf"[8].

Means of Communication in the Foreign Trade of Tamils

Mostly the foreign trade of Tamil Nadu was carried out with the help of ships. The Caṅkam works mention various types of boats and ships used by Tamilians. Timil, Nāvāy, Vaṅkam, Pahri, ōṭam, Kalam, ampi, tōṇi[9] are some of the terms

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8. Prakash Charan Prasad. P.149.
9. T.Muttukkaṇṇappan, *Caṅka Ilakkiyathil Neytal Nilam* (Tamil) (Madras, 1978) pp. 175-179.

used to denote vessels which were used for navigation. Of these Vaṅkam, Nāvāy and Kalam are described as the ones used in long distance travel by sea. The lines,

> vēṟu paṉṉāṭṭiṉ Kāṟara vanta
> pala viṉai nāvāy tōṉṟum peruntuṟai[10]

(a port where the ships from many different countries come on various occupations, with the help of the wind)
and

> Naḷiy iru muṉ ñir nāvāy ōṭṭi
> vaḷi toḻil āṇṭavar[11]

(They who sailed the ships in the great ocean and controlled the profession of Navigation[12]) indicate that *Nāvāy* type of ships are uesd for sea transport. *Vaṅkam* and *Kalam* type of ships were also mentioned as means of transport in the deep sea.

> ....
> Cuḷḷiy am pēriy āṟṟu veṇ ṇurai Kalaṅka
> yavaṉar tanta viṉai māṇaṉkalam[13]

(the ship of the Yavanas which came to the great river cuḷḷi stiring the white frothing waves ......)
and

> ....
> ulaku kiḻarnt aṉna uru keḻu *vaṅkam*
> Pulavut tiraip peruṅ kaṭal nīriṭaippōla[14]

10. *Naṟṟiṇai* published by Aruna Publications, (Madras, 1968) v. 295.
11. *Puṟanāṉūṟu*, edited by U. V. Saminatha Iyer, 7th edition (Madras, 1971), v. 66.
12. '*Vaḷitoḻil*' mean the profession of Navigation. As Navigation in those days was carried out by ships with the help of the wind, this profession is referred here as Vaḷi toḻil
13. Akanāṉūṟu. (Madras, Kalakam Publication No. 1389, 1970) v. 149 : 7-11
14. Ibid. v. 255 : 1-4

(......the vankam (ship moves on the waves of the great sea as if the word itself started moving......)

The name *Vankam* could have come into vogue, as it was made in the Bengal style of ship building[15]

The Periplus of the Erythrean sea refers to two types of ships the Colandia and Sangara used along the cost of Tamil Nadu. He says that[16] "Among the market towns of these countries, and the harbours where the ships put in front Damirica and from Damirica and from the North, the most important are, in order as they lie, first Camara, then Poduca, then Sopatma, in which there are ships of the country coasting along the shore as far as Damirica, and other very large vessels made of single logs bound together called Sangara; but those which make the voyaga to Chyrse and to the Ganges are called *colandia* and are very large".

This establishes the fact that not only lhe foreigners came to trade in Tamiḻakam, but Tamilians alsa went on sea for their trade in those early days. Hippalus (A. D. 45) was the first person who made the shipping would know about the periodicity of the trade winds and this eventually opened a new ocean to Roman shipping. It is also probable that even before him vessals belonging to the Arabians and the Dravidans frequented this ocean for many centuries.[17]

The important ports and markets; Exports and Imports

According to the Peryplus of the Erythrean sea: On the sea route along the coast the first two important ports belonging to the Tamiḻakam, were *Naura* and *Tyndis*. Tyndis belonged to Ceras and it was a village in plain sight... The Tamiḻakam during the time of this Periplus covered Malabar, Cochin, Travancore and present Tamil Nadu. Though the

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15. A. Raghavan, NamNāṭṭukkappaḻkalai (Tamil), Madras, 1968) p. 171.

16. Periplus, p. 46.

17. Schoff, commentary to the Periplus of the Erythrean Sea, Op, cit. p. 227.

correct indification of the port Naura is not known, it may be identified with the modern Cannanore, which was very active in its trade with Romans. A great number of Roman coines belonging to the reign of Tiberius, Claudius, and Nero were found here. Scholars identify Naura with the port Naṟavu mentioned in the Caṅkam poems.[18]

The lines,

"..

poṅku picirp puṉori maṅkul oṭu mayaṅki
varuṅ kaṭal intaiyiṟ paṉikkum
tuvvā naṟaviṉ cāyiṉattāṉē".

(He who is with the ladies in the city Naravu which is cold by the wind which touches the sea waves and which throw small drops and which mingle with the clouds.)

"..."

Cūtā naraviṉ nāṇ makaḷ irukkai
(In the royal court of Naṟavu...............) of Patiṟṟuppattu[19]
refer Naṟavu as a port belonging to the Cēras.

By referring *Cūṭā Naṟavu* and *tuvvā Naṟavu* meaning Naṟavu which is not worn (i.e. to denote not the flower Naṟavu) and Naṟavu which is not enjoyed (Naṟavu also means toddy) means that this Naṟavu mentioned in Patiṟṟuppattu is a name of a plaoe. This is a common construction in Caṅkam literature see for instance the constructions like Cūṭāvākai, Ōṭakkutirai and Vāṭa vañci, which refers to places Vākai, Kutirai hills and Vanci.

The port Tyndis according to the Peripuls was located in the kingdom of the Cheras in a village in plain sight on the

18. K. N. Sivarajapillai, *The Chronology of the Early Tamils,* Based on the synchronistic tables of their kings, chieftains and poets appearing in the Sangam Literature, (New Delhi, Asian Educational Services, 1984) P.172.

19. Patiṟṟuppattu, Madras, 5th edition (Kazhagam edition No. 523, 1968)
60 : 10-12,85;8

shore.[20] This location is corroborated by the following lines of Akanāṉuru.[21]

" ...."
veṇ koṭṭi yāṉai viṟaṟ pōrk kūṭṭuvan
teṇṭiraip parapiṟ *toṇṭi* muṉṟuṟaic
curum puṇa malarnta perun taṇ neytal
" ...."

(.............. the neytal flower which bloomed on the beach of the sea with white waves, which belong to the kuṭṭuvaṉ who owns elephants with write tusks and fights fiercely in the war........)

The articles which were either imported or exported from these parts are not known through the Caṅkam works and the Periplus.

The port which is situated below the port Tyndis is *Muziri* which is often mentioned by the foreign travellers as well as by Tamil works. This port belonged to the Ceras, and was full of ships from Arabia and Greece. It was located on a river distant from Tyndis by see five hundred stadia[22], and up the river from the shore one hundred and twenty stadia. The river mentioned by the Periplus may be the same as "Cuḷḷiyāṟu" referred in Caṅkam poems. The Akanāṉūṟu lines.[23]

"...Ceralar
cuḷḷiy am pēriy āṟṟu veṇ ṇurai kalaṅka
yavaṉar tanta viṉai māṇ naṉ kalam
poṉṉoṭu vanta kaṟiyoṭu peyarum
vaḷaṅkelu muciṟi......"

(The flourishing Muciri where the ships made by the Yavanas with excellant craftsmanship come with gold and go back with pepper, breaking the white frothing waves of the great river Cuḷḷi of Ceras...)

20. The Periplus, op: cit. P. 44
21. Akanāṉūru, V. 290 : 12-14. See also Puṟanāṉūru, V. 17 : 48
22. "One Stadia is equal to 520 feet".
The Periplus, Op. Cit. Paragraph. 54, p. 44.
See also the notes written by Schoff. p. 54.
23. Akanāṉūru. V. 149 : 7-11

clearly states that there were ships of Yavanas which brought gold to Tamiḷakam and took away pepper, This is further explained by the following lines of Puṟanāṉūṟu[24]

mīṉ noṭutlu neṟ kūvaii
micai ampiyiṉ maṉai maṟukkuntu
maṉaik kuvaiiya kaṟi mūṭaiāṟ
Kali ccummaiya karai kalakkuṟuntu
Kalan tanta poṟ paricam
Kaḷit tōṇiyār karai cērkkuntu
malait taramuṅ kaṭaṟṟāramum
talaip peytu varunarkkiyum
puṉalaṅ kaḷḷiṉ polant tārk kuṭṭuvaṉ
muḷaṅku kaṭaṉ muḷaviṉ mucuṟi ...

(The port Muciri, which has the noisy sea as a drum and which belongs to Kuṭṭuvaṉ who wears a golden garland and possesses toddy like water, donates the wealth of hills and sea to visitors. There, the heaps of paddy covered by (boats called) ampi render it difficult to differentiate them from the houses. There is a lot of noise at the shore due to pepper bags coming home. The golden things brought by the big ships, are brought to the shore by small boats.)

This verse vividly describes the trade carried out at the port Muciri. The inhabitants, the fishermen of the coastal region of the town Muciṟi exchange fishes to their wealth brought from sea to paddy and they have heaped them along the coast and have covered them with boats called *ampi* to protect them. They also bring into their houses bags of peppers teady to be exported. The big ships which come from other countries perhaps from Arabia and Greece as Periplus says, stop at a distance and the golden things brought in them are carried to shore by small boats. Pliny also mentions this fact that....ships anchor at a great distance from the shore, and the Cargoes have to

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24. Puranāṉūṟu, edited by U. V. Saminatha Iyer, 7th edition (Madras, 1971) v. 343 : 1-10.

be landed and shipped by employing boats,'[25]. During his days Muziri (Muciri) was not a desirable place of call, as Pisates were in the neighbourhood who occupied a place called Nitrias.[26]

Pepper which fetched a great amount of foreign money was cultivated in plenty in the forests of Travancore and Malabar, This has been cultivated from very early times in the South of India and its antiquity is not clearly known. The trade of pepper with Babylonia, Persians especially under the reign of Darius, China and Rome where known through the notices of foreign travellers. Pepper was one of the most important trade items between the Romans and the Indians. It had been used in abundance in the Roman cookery and its cost in Rome was exhorbitant. Pliny (XII, 14) writes the cost has 15 denarie, or about 2.55 per pound. It had been even a worthy offering among the elite as we come to know that "the emperor Constantine offered to the church under St. Silvestes, costly vessals and fragrant gums and spices, including frankincense, nard, balsam, storax, myrrah, cinnamon, saffron and pepper"[27]. It was considered as valuble as gold, silk and silver as we see 3,000 pounds of pepper as one of the terms offered by Alaric for raising the siege of Rome along with 5,000 pounds of gold, 30,000 pounds of silver, 4,000 robes of silk and 3,000 pcc. of fine scarlet cloth.[28]

The trade was well established and the merchants who handled this trade were called "pepperers".

Muziri was a famous port for exchange of pepper with other things such as gold coins. This is well confirmed by the Caṅkam lines, 'Poṉṉoṭu vantu kaṟiyoṭu peyarum'.

Below Muziri to the south there was a port called Nelcynda. This is referred to as *Neacyndi* by Pliny and *Melkynda* by

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25. *Foreign Notices of South India from Megasthenes to Ma Huan,* collected and edited by K. A. Nilakanta Sastri (Madras, University of Madras, 1972) P. 53, quoted from Ancient India as described in classical literature, Mc Crindle, pp. 102-106.
26. Ibid. 53.
27. The Periplus, Schoff. op. cit. p. 214.
28. Ibid. p. 214.

Ptolemy.[29] The correct identification of this port city is uncertain, but it can be somewhere near modern kōṭṭayam. There was also another port called Balita and following this, there were two famous ports called Comari and Colchi.

Comari or Kumari was well known for its religious sanctity and Colchi for its pearl fisheries. Pearl was another important export item to foreign countries from India. Colchi, which may be identified with Korkai was the chief port of Pandyas in the time of the Periplus. The royal court was established at Madurai, and the crown prince lived at Korkai in order to control the important revenue and commercial interests centered there.[30] The pearls were exported in large quantity from here to the mediterranean countries. One does not exactly know how South Indian scame to know of the pearl in the oysters first and what type of methods were adopted in fishing them. The first time one come across informations regarding this is in the travelloques of Chanju kua and Marcopolo. Marcopolo gives a detailed discription of this industry.[31]

Along with pearls and conah shells were also available in these ports for trade. The Periplus, Pliny and Plotemy refer to Korkai-Colchi as the emporium of the pearl fishery. This is also confirmed by the following lines from the Caṅkam works.

maṟappōr pāṇṭiyaṉ aṟattir kākkuṅ
koṟkaiy am peruntuṟai muttu[32]

(The pearls of the great port Korkai which is protected by the Pandyan who is known for his wārs...)

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29. Ibid. p. 208.

30. Vincent. A. Smith, *The Early History of India* from 600 B.C. to the Muhammandan Conquest, 4th edition, (London, Oxford University Press, 1967) p. 469.

31. Nilakanta Sastri, op. cit, p. 162ff.

32. Akaṉaṉūṟu, V, 27.

"ten kaṭal piranta muttiṉ āramum"[33].

(....also the garland made of pearls which were born in the south sea.)

In the very early period, the pearl trade existed between south India and Egypt, Rome, Greece and China. Pliny in his notes says that the pearls were mainly imported in to Rome from Indian Ocean Pearl was called by Romans as *"unio"* meaning unique gem as no two pearls are alike in size, shape, polish and weight.[34] Roman women adored pearls and even the poorer classes tried to acquire them. Roman ladies started weaving pearl garlands all over their body and it was believed that" a pearl worn by a women in public

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33. Ibid. V. 3.

See also the following lines :

''பேருலகத்துமே எந்தோன்றி சீருடை விழுச்சிறப்பின்
விளைந்து முதிர்ந்த விழுமுத்தின்
இலங்கு வளையிருஞ்சேரிக்கட் கொண்டிக்
குடிப்பாக்கத்து நற்கொற்கையோர்''

— மதுரைக்காஞ்சி. 11 : 133:138

பத்துப்பாட்டு, பதிப்பித்தவர். உ. வே. சாமிநாத ஐயர்,
ஆறாம் பதிப்பு (சென்னை-1961)

''இவர் திரை தந்த வீரங்கதிர் முத்தொடு
கவர் நடை புரவி கால்வடுத்த புக்கு
நற்றேர் வழுதி கொற்கை முன்றுறை —அகம், 130

''பாண்டியன் புகழ்மலி சிறப்பின் கொற்கை முன்றுறை
யவிர்கதிர் முந்தமொடு வலம்புரி சொரிந்து

—கலி. 131 : 1:22

வலம்புரி மூழ்கிய வான்றிமிர் பரதவ
ரொலிதலைப் பணிலமார்ப்பக் கல்லெனக்
கலிசெழு கொற்கை —அகம், 350

பன்மீன் கொள்பவர் முகந்தவி
நாரரி நறவின் மகிழ்கொடை கூட்டும்
பேரிசைக் கொற்கை —மேற்படி 296

34. S. Arunachalam, *The History of the Pearl Fishery of the Tamil coast*, (Annamalai Nagar, Annamalai University Historical series, No. 8, 1952) P. 40, cited from Pliny, The Natural History, Book IX, Chapter 59.

is as good as a lictor working before her'..[35] Pliny has condemned this craze for pearls and he writes against the feminine luxury, which caused a drain of the Roman Exchequer.

To the north of korkai on the eastem side of Tamilakam are mentioned three important ports called *Camara, Poduca* and *Sopatma.* Just above Korkai there seemed to have been another important trade centre called Argaru[36]. The Periplus has clearly stated that from this place pearls from the coast and muslins were exported. This Argaru is identified as Uraiyūr since the textile industry of Tirucciráppalli and Tanjore has been famous from earlier times.

The ports Camara, Poduca, Sopatma have not been identified conclusively through they have been tentatively conjectured as Karaikal, Putucceri (Pondichery) and perhaps, Madras.

Kāvērippūmpaṭṭiṉam (Pukār) was another port which flourished in early days in Tamilakam and it belonged to Karikāla Cōḷa,. The Cilappatikāram narrates in detail about the market in Pukar. Paṭṭiṉappālai, one of the pattuppāṭṭu works also vividly describes the commercial situation of the port of Pukar.[37] The following lines give an idea of this port where things from sea and land come in large quantities. It is also said that they were sealed with the tiger mark.

Vēl āḷi viyaṉṟeruvi
naliṟaivaṉ poruḷ kākkuṅt
tollicait toḷiṉ mākkaḷ
kāy ciṉatta katirccelvaṉ
ṟer pūṇṭa māa pōla
Vaikarorum acaiviṉṟi
yūlku ceyak kuṟaipaṭātu
vāṉ mukanta nīr malaip poḷiyavu
malaip poḷinta nīr kaṭar parappavu
māri peyyum paruvam pōla

35. Ibid, P. 41
36. The Periplus, Op-Cit. notes. P. 241
37. Pattuppāṭṭu, Paṭṭiṉappālai, op. cit. 119—135

nirininru nilat terravu
nilattininiru nirpparappavu
maḻantariyāp pala paṇṭam
varampariyāmai vant īṇṭi
yaruṅkaṭip peruṅ kāppin
valiyuṭai vall aṇaṅkinōn
puli porittuppuram pokki
mati nirainta mali paṇṭam
(The good kings servants take their rest
And guard his goods in store - rooms built
On spacious streets thar skirt the sea
With screw—pines bearing white blooms edged
Prompt as the hot sun-god's fast steeds
That draw his car, they daily do
Their work with care and levydues.
As, when the rainy season comes,
The copious waters drawn by clouds
Are shed on mountain tops and these
In turn flow down and fill the sea,
So goods flow in from sea to land,
And also flow from land to sea
Unmeasured are the abundant wares
Here brought and piled. And watchmen strong
In depots guarded well do seal
These with the potent tiger mark
They pile in yards these bundled heaps
Of wares immense[38]
....)

The commercial life in pukār is also brought out in another place where the sea trade and land trade are described in detail

nīrin vanta nimir parip puraviyun
Kālin vanta karuṅ kari mūṭaiyum
vaṭa malaip piranta maṇiyum ponnuṅ
kuṭamalaip pirantav āramum akituṅ

38. Pattupattu, Ten Tamil Idylls, Translated into English verse by J. V. Chelliah. (Madras, Kazhagam Edition, 1962) Pattinappalai—Translation lines 134-152, P.37

kaṅkai vāriyuṅ kāvirip payaṉum
īḻat tuṉavaṅ kāḻakat tākkamum
ariyavum periyavu neriyav īṇṭi
vaḷan talai mayaṅkiya neṉantalai marukiṉ[39].
(……… . Here are brought
Swift, prancing steeds by sea in ships,
And bales of pepper black, by carts,
Himalayas sends gems and gold,
While kudda hills, sweet sandal-wood
and Akhil ; pearls from the south sea come,
Red coral from the esatern sea
The Ganges and the Kaveri bring
Their yield ; Ceylon provides its food,
And Burma, manufacturers rare
With other rare and rich imports
This wealth lies close and thickly piled,
Confused along the spacious streets.[40]
…………………………………………)

From all the accounts one understands that Rice, Pepper, Nard, Aloes, Sone oil. Wool, Ivory, Tortoise shell, Pearl, Diamond, Sapphire, Beryls and Garnet were the main export items from South India. In return they imported a large amount of gold coins, horses, frankincense, muslin, tin, copper, lead, wine, Realgar and orpiment.

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39. Pattuppaṭṭu, Ed. J. V. Chelliah. op. cit 185-193
40. J. V. Chelliah. op. cit. lines 212-224. see also. Maturaik-kānci, 75-88, 321-324, 536-543.

Education and Vocation of the Tamils as revealed in Peria Puranam

T. S. VELIAH

"From Peria Puranam it will be evident that only for occupations like Kingship, Royal Service and religious preaching, a high educational content was required. In all other cases it had no role to play, as agriculture was the principal occupation of the Tamils."

A panaromic view of the heritage of Tamils of medieval age could be had from the study of no-other single Tamil literary work than that of " Peria Puranam ". In about four thousand and two hundred divinely inspired versus, Sekkizhar distils the essence of the Tamil Society as it were - the genius and the characteristics - in the form of a hagiography of 63 Saiva Saints who strode mightily the religious land-scape of Tamils from the early 3rd to 8th century A.D. Indeed, it is a magnum opus of the history of saints anywhere in the world. It is one of the most closely studied literary work by eminent scholars, as it has in its bosom in-exhaustible treasures awaiting ever new efforts for fresh discovery.

In the following pages, we shall endeavour to call attention to two important facets of the heritage of Tamils namely, Education and Vocation.

Scope : At the outset we have to confess that the literary works extant on date including Peria Puranam do not throw much light on the state of education as obtained during the past centuries. It seems strange that an important facet of life like education has not attracted the notice it deserved. We could only hazard a guess for the possible reasons thereof :

1. Education does not seem to have been the responsibility of kingly states. Hence there could have been no royal direction and consequently an educational policy.

2. The concept of universal education as obtaining now does not seem to have existed then.

3. Education largely was an affair of the individuals. Literally one had to go, knock at the door of teachers and ask for it. It was not available as it were, off the shelf.

4. Education has been a hand maid of religion and the concept of secular education must have been a later day development.

Perhaps this aspect could be explained partly by the fact that the ' ancient literature, particularly the Vedas, and the auxiliaries were believed to contain all the essence of true knowledge, the acquisition of which was considered necessary, for equipping oneself for leading a good and full life '.([1])

Hence education as it obtained during the medieval period was intertwined with religion. Where the religious practices were well-ordained, correspondingly the educational process as well as the structure was systematised as in the case of Vedic education. In all other cases, it was largely left to the individuals, to give a shape and content. About the former, we could glean full details from literature and other sources. About the latter, we have to base our studies on conjectures and inferences.

Perhaps the author did just that in composing his monumental work. He was given, pieces of information only, about the saints and out of the fragments he has created a master-piece, filling the gaps and moulding it a whole. We shall also endeavour to adopt the same method in knowing about the state of education as revealed by his work,

Inventory : Let us adopt an empirical approach in knowing the details about the main characters of Peria Puranam. Let us take a census of the saints obtaining the basic demographic details like sex, marital status, children, educational status. occupation etc.,

Sex, marital status, children, and occupation are simple enough to classify. But how are we to classify the educational status of the saints as references to education itself were meagre in Peria Puranam? We have to postulate certain subjective classification and see whether we could 'net in' satisfactorily all individuals and conditions in the given fame.

For classifying the educational status, we shall adopt the following categories :-

- A Non-literate
- B Literate
  - B. 1 : Comprehensive
  - B. 2 : Significant
    - B. 21 : Vedic
    - B. 22 ; Tamil (non-Vedic)
  - B. 3 : Adequate

The explanations are :

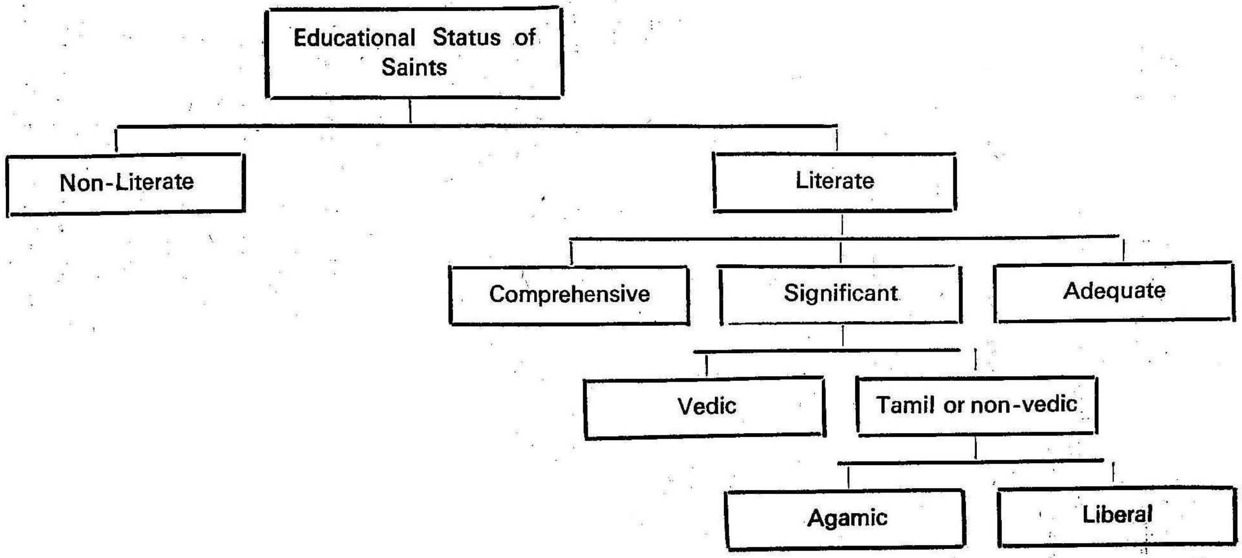
A: Non-literate : A person who does not know to read and write is classified generally as "illiterate". We adopt the term 'Non-literate' because the classification may be based on inference and hence the non-affirmative term.

B. 1 : Comprehensive : A king's education or its equivalent. A king's education will necessarily be comprehensive, which may include Politics, Administration Law, Religion, Fine arts, Martial arts, etc.

B. 2 : Significant : A sizeable period of time spent on (specific) pursuit of knowledge (may be around 7 years) like the time spent on Vedic studies or time spent on Tamil studies.

B. 3 : Adequate : A literate with some basic knowledge (adequate perhaps to his occupation or calling).

EDUCATIONAL CLASSIFICATIONS



Taking the above guidelines as a working tool, the educational level of the saints is classified and given in Appendix.

We see from the classification the educational picture which emerges as :

Table I: Saints classified by educational status

Educational status		No. of persons
A.	Non-literate	8
B.	Literate	55
B 1.	Comprehensive	17
B 2. 1	Vedic	12
B 2. 2	Tamil	12
B 3	Adequate	14

It is worthwhile, in this contact, to recall the observation of K. A. Nilakanta sastri, on the state of education during medieval age. He says "one may hazard the conjecture that the percentage of literacy in population was not lower. it was probably higher than the extremely low level revealed by recent censues."(6)

Content of Education

Of the three main streams of education under 'Literate', the content of Vedic education is known from times past which was also sustained by Peria Puranam. We run into a blind alley, only when we want to know the content & structure of the other two streams. Collecting the details from the Peria Puranam and with interpolation, the following tables were constructed, separately for each stream. The tables give the content of education under the following headings:— The stages of education, age of pupil at different stages, institution and the subjects studied. Let us go into the details of each of the categories taking the Vedic education as the first.

Vedic Education

Table II : Content & Structure of Vedic Education

Sl. No. (1)	Stage (2)	Age at stage (3)	Institution (4)	Nature (5)	Content (6)
1.	Primary	5th year	At home	Obligatory	1. Writing 2. Reading 3. Language 4. Elements of Grammar
2.	Initiation	7th Year	1. 'Matam' and/or 2. Teacher's House	,,	1. Recitation of Vedas 2. Study of Auxialiary Texts 3. Literature
3.	Higher Study	After 12th Year	,,	Optional	1. Upanishads 2. Mimamsa 3. Vedanta
4.	Specialized Study	After 15th Year	,,	,,	Training in selected subjects and problems
5.	Meeting of Academics	—	At centres of repute	,,	Debate and discussions

Stages: The stages of Vedic education were well-defined. The education starts at the age of the 5th year (St: 1218), the upanayanam on the 7th year (St: 1219), and the completion of the basic education at the 12th year. Afterwards, the individual has to equip himself in going to selected centres of learning.

Institution: Education at the primary stage upto 5th year was generally imparted at home (St: 1218). Subsequent education was imparted either at the house of the teacher or the "matams" designated for imparting Vedic education. These 'Matams' were situated in the outskirts of the city (St: 1063).

Teacher: Sekkizhar mentions the teacher as "aasan" and his qualities are that he must be capable enough to help the children in their learning process (St : 1208).

Pupil: The vedic students are mentioned as "Kidai'— (ஓது கிடை).

Teacher Pupil relationship: Sekkizhar portays the relationship succintly by a simile - "Like the stars surrounding the moon"—'தாரகையும் மதியும் போல'. (St: 1208).

	Simile	Explanation
1)	Stars are many-moon is one	The teacher is one & many are his disciples.
2)	By appearance the stars are smaller than moon but both emanate light	The teacher serves as a catalyst in enhancing the latent intelligence of the students.
3)	The stars are identified in relation to the moon.	The identity of the student is established and enhanced by the teacher.
4)	The stars twinkle & the light from moon is unhampered.	The light shed by the teacher is generous & unrestricted.

Subjects studied :

1. 4 Vedas
2. 6 Angas
3. Agamas
4. Other auxiliary texts - (St : 354)

Methodology : The Vedas, as was known, were imparted orally by the teacher to the students and this was done meticulously adopting specified procedures—
'நான்கு வேதம் முறை பயின்றார்' — (ST: 1207), C. K. S. explains 'முறை' as 'பதம், சடை, கிரமம், கனம் ஆகிய முறைமயிற் பயிலுதலும், காலந் தெரிந்து பயிலுதலுமாம்'.

The students were supposed to be present before the commencing time, and be available for the entire period of study and then leave the school (St : 1063). While returning home, they recollect, what was taught in the class and recite it number of times (St : 1210).

Teacher - Pupil Ratio : Stretching the simile ' தாரகையும் மதியும் போல ' a little further, we say that the number of students is about 27 as the outer bound, taking it as a range of values from 1 to 27. We work the average number as 14 and postulate that the teacher-pupil ratio as 1 : 14.

In the Vedic school at Thiru Mukudal (A.D. 1067) there were 3 teachers for 60 students, resulting in a ratio of 1 : 20[2]

Nature: The Vedic education, confirned to Brahmins was obligatory on them. Hence, there was continuity and maintenance of the structure of the educational process from the times past.

Tamil Education

The details about the Tamil or Non-Vedic education are meagre. However from the available information the picture that has been put together is given below in Table III.

Table III : Content and structure of Tamil education

Sl. No. (1)	Stage (2)	Age at stage (3)	Institution (4)	Nature (5)	Content (6)
1.	Primary to Higher study	5th to 15th Year	At home and/or Teacher's House	Optional	1. Writing 2. Reading 3. Language 4. Elements of grammar 5. Religious Texts like Tirumurai 6. Literature
2.	Specia-lized study	After 15th Year	Teacher's House	Optional	1. Literature 2. Selected subjects
3.	Meeting of Academics	—	At Centres of Repute	Optional	Debate & discussions

Stages : We can postulate two stages viz. Primary from the 5th year to the 15th year of the individual and the higher study after the 15th year. Here we run into the need for another stage of classification in the case of AdiSaivas. Adi Saivas also had the upanayanam ceremony at the age of 7th year (St : 152). They had to be proficient with the works of agamas and other religious sanskrit texts. This necessitates that the non-Vedic, or the Tamil education to have a sub division, namely one emphasizing the vocation of the sivachariars and the other on liberal education. Therefore, for all practical purposes, the stages of education, for the Adi saivas and the Brahmins were similar and only the contents differed.

Institution : The teacher's house, was the one-man institution, in which Tamil education was imparted. And who were the teachers, in the strictly caste based society ? We presume that the teachers in general could have come only from the upper class society. However we could not rule out persons like Tiruneelaganta Yaḷpāṇar of low caste, as teachers. Sekkizhar mentions 'பொய்யடிமையில்லாத புலவர்'- 'grouping poet-saints devoted to god, as a separate category. We presume, that this is the most probable single category into which enlightened Tamil Teachers would have been classified by Sekkizhar.

The imparting of education as far as Tamil study is concerned was not obligatory and hence the continuity in the educationa chain was woefully absent.

The subjects studied : The subject studied could be different between the Adi Saivas and the others. As far as Adi Saivas were concerned, we presume that it is the same as that of Brahmins· In addition, they must have studied the Agamas in detail and the supporting Sanskrit texts. The Tamil Tirumurais and other works also must have been a part of the curriculum. As for the liberal education the content must have heen the study of language, literature, arithmetic etc. The content perhaps was left to the individuals and the availability of teachers.

Languages Studied : Most of the Brahmins and Adi Saivas, have had a knowledge of Sanskrit and Tamil.

Adequate Education

As defined, this classification covers occupations like agriculture, Petty trade etc., for which no significant liberal education was needed. For instance " stone masons and copper smiths were to be found everywere to engrave inscriptions on stone and copper and the work was often done with remarkable accuracy and art. The corrupt and colloquial form of words and phrases in several of the inscriptions show that the work was generally entrusted to workmen who were just literate but were no scholars ".(6) Hence, the content was a subset of ths subjects studied under the Tamil Liberal Education, depending on the vocation.

Comprehensive Education

Content

Vedic education was specialised and confined to Brahmins. Significant non-Vedic education were imparted to Adi Saivas and others interested in education, in the selective fields of study like Agamas, literature etc. But a prince's education has to be comprehensive. A prince has to have an exposure to, the worthiness of Vedas, the need of Agamas, the beauty of literature, the intricacies of political & Military science, the art of good administration, a knowledge of Jurisprudence and the mastery of Maritial arts. Hence, it is a judicious combination of the two streams mentioned above plus something more. Sekkizhar, gives the content of Prince's education, under two categories namely, Religious or God oriented (தெய்வக் கலை) and Pragmatic or Vocational (படைத்தொழில்கள்)

'தெய்வக் கலைபல திருந்த ஓதி, கவனமாம் புரவி, யானை
தேர்ப் படைத் தொழில்கள் கற்று'— (ST : 103)

CKS explains the 'தெய்வக் கலை' as Vedas, Vedangas, Sivagamam, Puranas, Epics, Ayurveda etc. and 'படைத்தொழில்கள்' as that which was required by the King, under royal tradition, on a mundane level.

Indicating the obligatory nature, Sekkizhar tells us that the educational process must be completed before being eligible to be a Prince.

'அளவில் தொல்கலைகள் முற்றி—
இளவரசுக்கு அணியனானான்—' (ST: 104)

Hence the content of education is wide ranging from the study of Agamas, Literature, etc. to Public Administration, Military science etc. as given in Table IV.

Table IV:

Content and structure of comprehensive education

Sl. No. (1)	Stage (2)	Age (3)	Institution (4)	Nature (5)	Content (6)
1.	Primary to Higher study	5th to 15th Year	At King's place and/or Teacher's House	Obligatory	1. Writing 2. Reading 3. Language 4. Literature 5. Religious texts
2.	Specialized study	After 15th	,,		1. Spl. subjects like, Political Science, Administration Jurisprudence, Military Science, etc. and Training in Martial Arts, etc.

The institution also was the teacher's house or the king's place,

Women's Education

It appears that universal women's education seems to have been absent during medieval age. In spite of such restraints, it is a tribute to the genius of the Tamil Society that it had produced enlightened & educated women right from the Sangam age. Dr. Arokiasami says "the poets found in the two great collections of the Sangam age.—the Ettuthogai & Pattupattu—alone number 473 (besides 102 anonymous persons) with 2279 poems to their credit. Of these nearly 50 are women poets. These very numbers ought to give one an idea of the state of learning (*of women*) during that period."(4) It is not known whether any other language in the world, of comparable antiguity, has produced so many women poets as that of Tamil.

The immediate impact one has on reading Peria Puranam is the fact of accordance of saint hood status to women; 3 out of the galaxy of 63 are women. It is indeed a reflection of the high attainment of women culturally & spiritually. But how for they were educated as per the terms of our reference? Before going into this question, let us enumerate the women characters depicted by Sekkizhar.

On a first reading, we can count upto not less than 40 characters, including the saints' wives. From the table in appendix it could be seen that about 31 are saints' wives & the rest are other woman characters like; Fiancee af Sundarar, Mother of Kannappar—Thathai, Lady oracle (Kannappar story), Mother of Sandesar—Pavithirai, Mother of Thirunavukarasar—Madhiniyar, Sister of Thirunavukarasar—Thilakavathiyar, Mother of Gnanasambandar—Bagavathiyar, Mother of Kochengancholan—Kamalavathi. and Poompavai, daughter of Sivanesan Chettiar of Mylapore.

Could we know anything about their educational status? It is like searching for a black cat in a dark room. From the story of 3 women saints given by Sekkizhar, we know for certain that the women were generally educated, but only the details were not available to us. Imagine if the work of Karaikal Ammaiyar were not available to us, she would have also passed off for another non-descript housewife. Let us therefore try to get some insight into this aspect by collateral evidence,

Let us classify the wife of the saints by their spouse's educational status and caste. The table below gives the details:

	CASTE	COMP	SIG	ADQ	N. L.	TOTAL
1.	King	7	—	—	—	7
2.	Brahmin	—	6	—	—	6
3.	Adisaiva	—	2	—	—	2
4.	Trader	—	2	3	—	5
5.	Vellala	3	—	2	—	5
6.	Others	2	1	1	2	6
	Total	12	11	6	2	31

(Comp—Comprehensive, Sig—Significant, Adq—Adequate, N. L.—Non-literature)

We read from the above table that 6 women out of 31 belong to the category 'Adequate' education. Let us assume that the educational states of woman generally is lower than that of their spouse. On this assumption we may exclude this number as 'non-literate'. This leaves us with 12 women under 'Comprehensive' and 11 in the 'significant' category. We now postulate that this 23 women from higher educational environment would possess at least the education under the 'Adequate' category. The stories of Mangayarkarasiar, Isai gnaniyar, Karaikal ammaiyar. Mathnga Chulamaniyar etc. lend further credence to the above postulate.

Summing up the analysis, we say that out of 63 saints, about half of them were married and postulate that one third of them had had their wives as 'literates'.

The women's education could be classified into 2 phases as (1) Active and (2) Passive, since the marriage was a great divide in the life of woman. During the active phase, they undergo the education process mainly at home or at the houses of their co-women students until they attain puberty. Subsequetly they stay at home but the educational process continues. They

were taught by their parents at the primary stage and by visiting poet-saints subsequently. The wandering Panars also contribute their mite in imparting the education specially in the field of fine arts. During the passive stage after marriage, in an educated environment of their husband's, the women continuously absorb what best that was transpired in her 'acquired' home. Consequently the women, atleast whose husbands were educated, had ample opportunity in equipping themselves educationally. The following table summarises these surmises.

An outline of the content & structure of Women's education

S. No. Stage	Age at Stage	Institution	Teacher	Nature	Content
1. Active	1. 5th Year to Age of Puberty	1. At Home (or) 2. At Co-student's House	1. Parent 2. Poet-saints 3. Panar	Optional	1. Reading 2. Writing 3. Language 4. Fine Arts
	2. Age of Puberty to 12th year	At Home	1. Parent	,,	5, Religious texts
2. Passive	After Marriage	At Husband's House	1. Husband 2. Poet saints 3. Panars		6. Literature 7. Other subjects

(Course content is illustrative: It could overlap between stages).

Nursery School

From the story of Siruthondar, Thiru M. Arunachalam reveals the existence of nursery schools. He says "school age is clearly

indicated.........Siruthondar had sent his son at the early age of 3 to the school. The school was a separate institution where children were sent to study and, when Siruthondar wanted his son in his house he went to school and brought him. Thus we learn from this story that children were being sent to school even at what is known as the pre school age .... We may conclude that there were even nursery schools for very young children"(5).

The above details are based on St: 3681 and St: 3718. In stanza 3681, Sekkizhar says, that at the age of three tonsure ceremony was performed, and the child was sent to school.

Here the specific reference is to the tonsure ceremony. Now compare this with stanza 1285 of Tirunavukarasar Puranam where Sekkizhar explicitely says that the tonsure ceremony was performed at the age of 3, and after his attaining the 5th year he was sent for learning. The table below sums up the situation :

Story	Age Tonsure ceremony	School going
1. Siruthondar	3rd year	X
2. Tirunavukarasar	3rd year	5th year

From the above table, we presume that the specific reference of age as 3 is to tonsure ceremony and not to the school going age. The import of the stanza would be the child was sent to school (at an appropriate age) *after* the performance of tonsure at the 3rd Year. This was also the view taken by CKS who says in the chapter summary of Siruthondar that after completing the rituals, at the age of 5 he was sent to school.

However in St: 3709 the Bhairavar who wants to have a meal of human flesh specifies that the human being should be *within* 5 years of age. (அஞ்சு பிராயத்துள் உறுப்பில் மறுஇன்றி)

Siruthondar accepts this specification and brings his child from the school. On the strength of this stanza, Arunachalam is literally correct in postulating the existence of nursery schools.

Another interesting point that emerges from this story, is the mention of 'Palli' to denote the school. Sekkizhar had used the word 'Kidai' (கிடை) to denote the Vedic schools. 'Palli' was sofar used by him to describe Jain school/monastary as referred to in the Thirunavukarasar Puranam. Perhaps this was used for the first time, in Siruthondar Puranam by Sekkizhar to denote Tamil education. (as differentiated from vedic.)

Education as imparted by other religions

In contrast to Vedic religion, Buddhism and Jainism seem to have organised, the imparting of education through the institution of schools or the equivalent thereof. Sekkizhar mentions at various places about the influences of Jains. The centre at Kanchipuram and at Patalipuram were mentioned in the story of Thirunavukarasar and the existence of the Buddistic school could also be conjectured by the Sakkiar episode. Perhaps the name "Palli" itself as a synonym for school was due to the influence of Jains who had well organised schools for the imparting of their knowledge.

Vocation

The vocation of the Tamils during the medieval age was largely based on caste system. Hence as regards the classification of the saints by vocation posses no problem as it is well delineated. Peria Puranam gives a cross section of the vocations obtained during the medieval age of the Tamil society. It covers the entire spectrum from the king downwards to the Puliyan, as could be seen from the table below:

It may be seen that 24 of the saints were full time devotees to the religion. Next comes the kings-13 in number with 5 more under royal service, 4 under trade and commerce, and the rest under various occupations.

Table V : Saints classified by vocation

S. No.	Vocation	No.
1.	Sivanadiyar	24
2.	Poets	3
3.	King	13
4.	Royal service	5
5.	Trade	4
6.	Agriculture	2
7.	Fisherman	1
8.	Hunter	1
9.	Shephered	2
10.	Weaver	1
11.	Washerman	1
12.	Potter	1
13.	Housewife	1
14.	Mercenary	1
15.	Fencing Instructor	1
16.	Gambler	1
17.	Puliyan	1
	Total	63

Devotees of God

The devotees of god were from different castes. The table below shows the composition of the Sivanadiyars, by caste.

1.	Brahmin	11
2.	Vellala	6
3.	Adi Saiva	3
4.	Shepherd	1
5.	Not known	3
		24

Kings : The kingship was hereditary. However, Peria Puranam gives an exception to this rule indicating rhe flexibility of the Tamil society, as in the case of Murthy Nayanar-a vysia who was selected

as King by the Royal Elephant, when there was no heir to the throne. In general the Kingship devolved on the heir when the elder king renounces the throne for the devotion to the religion as in the case of Seraman Perumal. The Tamils regarded the kingship also as transitory.

Trade and Commerce

The vocation trade could be classified into two broad streams viz., sea and internal trade. Sekkizhar gives an outline of the activity in the port towns like Pumpuhar, Nagapattinam, Karaikkal and a port in Pandiyan Kingdom. In case of sea trade he mentions the key person for navigation as "கம்மியர்", who seem to be a sort of a captain of the sea faring vessel.

In respect of internal trade, the author gives the description, that Amar Nidiyar was trading in gold, pearls, precious stones, clothes etc. In the case of Kaliyar, he was an oil merchant who was selling ginned oil at Tiruvottiyur.

Royal Service

Under Royal service, the occupation such as Prime Ministership, commanders etc, were classified. It may be seen that 3 out of the [illegible], belonged to vellalla community, & one to Mamathirar and santror. It may be pertinent that the author Sekkizhar himself belonged to vellalla community who was a Prime Minister to the chola king. The story of Siruthondar reveals that he was fully equipped in terms of education & other aspects for the post he held.

Poets

3 Saints come under the category of poets besides, Appar, Sambandhar & Sundarar. Out of which, Karaikal Ammaiyar belonged to Vaisiya Community and Tiruneelakanta Yalpanar to the Panar community and the third, Kariyar whose caste is not known, was the author of a "Kari Kovaiar".

Agriculture

Among the saints 2 of them were classified as agriculturist (1) Arival Thayar (2) Ilayankudi Maran.

The rest occupied the miscellaneous occupations like Puliyan, Weaver, Mercenary, Gambler, Hunter, Shephered, Washerman, Potter, Fisherman, Housewife and Fencing instructor.

Dr. K. K. Pillai, in his Social History of Tamils, gives a detailed listing of occupations, culled out from many sources.(⁸) It may be seen from the table below that most of the occupations referred to by him were 'netted in" by Sekkizhar.

Occupation as given in Social History of Tamils	Periya Puranam
1. Trade	√
2. Agriculture	√
3. Cattle breeding	√
4. Weaver	√
5. Carpenter	×
6. Black smith	×
7. Gold smith	×
8. Fine arts	√
9. Potter	√
10. Barber	×
11. Washerman	√
12. Puliyan	√
13. Hunter	√
14. Warrior	√
15. Bharathavar (Fisherman)	√
16. Brahmin	√

Education and occupation

From the above study it will be evident that only for occupations like kingship, Royal Service and religious preaching, a high educational content was required. In all other cases it had no great role to play, as agriculture was the principal occupation of the Tamils.

Summing up

Finally, from the fragments of information we could get some insight into the state of education and vocation as obtained during the medieval age.

Dr. Arockiasamy says that "it is a difficult question to answer, as to whether there were centres of learning such as the schools as we have today. We have no indication at all in the existence of such schools, and yet we are sure that a certain level of culture was maintained".([4]) Sekkizhar tells us as to how this was maintained through the story of a king and a commoner.

On any aspect, the King's view reigned supreme in the ages past. What was held by him as important and sacred was regarded as equally so by the people. In this respect, the story of Meiporul Nayanar gives a valuable insight. The king was sleeping in his chamber with his queen. Who could gain entry into his palace at that hour, except a person in the garb of a Sivanadiyar. Not only that, he had the audacity to ask the king to be woken up and he be permitted to be with him alone. Amazingly, the king permitted the saint to enter his private chamber at that unearthly hour, accorded him due respect & offered him a seat. What was the cause?—It was all because the saint had made a simple statement - that he had with him a valuable Agama, hitherto unrevealed, which he was anxious to share with the king. This at once illustrates, that which was highly regarded by the King.

A King perhaps could afford to regard, learning and education as highly important but how about a commoner who had to worry about the where whithals of life? Gananathar, a learned brahmin would not brook going to Kings and others to acquire wealth. His goal & mission of life was to share the wealth of knowledge, God had already endowed him. He had devoted his entire life to the noble vocation of Teaching. He was imparting knowledge & training to those who were interested in the manifold services of temples, acquiring knowledge — reading, writing & chanting of Tirumurai & other reli-

gious texts. In short, he was an one-man institution propagating religious knowledge & practices. He was like a seed—destroying itself, enabling the sprouts to shoot up into a mighty tree.

Now, the Tamil society from the ages past were blessed with such noble kings and dedicated commoners and through them the continuity of education and high culture was maintained for the benefit of successive generations.

APPENDIX

Demographic Profile of Saints

Sl.No. (1)	Name (2)	Sex (3)	Marital Status (4)	Caste (5)	Education Level (6)	Occupation (7)
1	Adi Pattar	M	M	Nuliyar	NL	Fisherman
2	Appudi Adigal	M	M	Brahmin	Sig	Sivanadiyar
3	Amarnithiyar	M	M	Vysia	Adq	Trader
4	Arival Tayar	M	M	Vellala	Adq	Agriculturist
5	Aanayar	M	X	Shepherd	NL	Shepherd
6	Chandesanar	M	X	Brahmin	Sig	Cowherd
7	Dandi Adigal	M	X	X	NL	Sivanadiar
8	Eripathar	M	X	X	Adq	Sivanadiar
9	Eyarkone Kali Kamar	M	M	Vellala	Comp	Commander
10	Enathi Nather	M	X	Santror	Adq	Fencing Instructor
11	Gananathar	M	M	Brahmin	Sig	Sivanadiar
12	Isai Jnaniyar	F	M	Aadisaiva	Adq	Housewife
13	Idankazhiar	M	X	King	Comp	King
14	Iyar Pakaiar	M	M	Vysia	Sig	Trader
15	Ilayankudi Maran	M	M	Vellala	Adq	Agriculturist
16	Iyadigal Kadavar Kone	M	M	King	Comp	King
17	Kanam Pullar	M	M	X	Adq	Silvanadiyar

(1)	(2)	(3)	(4)	(5)	(6)	(7)
18	Kannappar	M	U	Hunter	NL	Hunter [Chief)
19	Kali Kamar	M	M	Vysia	Adq	Trader
20	Kaliyar	M	M	Sekkar	Adq	Trader [Oil Merchant]
21	Karaikal Ammaiyar	F	M	Vysia	Sig	House wife [Poet]
22	Kazharitrarivar	M	X	King	Comp	King
23	Kazhar Chingar	M	M	King	Comp	King
24	Kariar	M	X	X	Sig	Poet
25	Kungulia Kalaiyer	M	M	Brahmin	Sig	Sivanadiyar
26	Kulachiraiar	M	X	X	Comp	Prime Minister
27	Kutruvar	M	X	King	Comp	King
28	Kochengan Cholar	M	X	King	Comp	King
29	Kotpuliyar	M	X	Vellala	Comp	Commander
30	Mangaiyar Karasiar	F	M	Queen	Sig	Queen
31	Manakkan Charar	M	M	Vellala	Comp	Commander
32	Murugar	M	X	Brahmin	Sig	Sivanadiar
33	Munai Aduvar	M	X	Vellala	Adq	Mercenary
34	Murkhar	M	X	Vellala	Adq	Gambler
35	Murthiyar	M	X	Vysia	Adq	King (Elect)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
36	Mei Porul	M	M	king	Camp	King
37	Nami Nandi, Adigal	M	M	Brahmin	Sig	Sivanadiar
38	Narasinga Munaiar	M	M	King	Comp	King
39	Nintra Seer Nedumaran	M	M	King	Comp	King
40	Nesar	M	X	Saliar	NL	Waver
41	Pugal Cholar	M	M	King	Comp	King
42	Pusalar	M	X	Brahmin	Sig	Sivanadiar
43	Perumeelai Kurumber	M	M	King	Comp	King
44	Pugazh Tunai	M	X	Aadi Saiva	Sig	Sivanadiar
45	Rudra Pasupathiar	M	X	Brahmin	Sig	Sivanadiar
46	Sadayanar	M	M	Aadisaiva	Sig	Sivanadiar
47	Shaktiyar	M	X	Vellala	Sig	Sivanadiar
48	Sakkiar	M	X	Vellala	Sig	Sivanadiar
49	Sirappuliar	M	X	Brahmin	Sig	Sivanadiar
50	Siru Thondar	M	M	Mamathirar	Comp	Commander
51	Seru Thunaiyar	M	X	Vellala	Adq	Sivanadiar
52	Somasi Maranar	M	X	Brahmin	Sig	Sivanadiar
53	Sundarar	M	M	Aadisaiva	Sig	Sivanadiar

(1)	(2)	(3)	(4)	(5)	(6)	(7)
54	Tiru Kurippu Thondar	M	X	Ekaliar	NL	Washerman
55	Tiru Gnana Sambandar	M	M	Brahmin	Sig	Sivanadiar
56	Tirunavukarasar	M	X	Vellala	Sig	Sivanadiar
57	Tirunalai Povar	M	X	Puliyan	NL	Cultivator
58	Tiru Nila Kantar	M	M	Potter	NL	Potter
59	Tiru Nila Kanta Yalpanar	M	M	Panar	Sig	Poet
60	Tiru Nila Nakkar	M	M	Brahmin	Sig	Sivanadiar
61	Tirumular	M	M	Shepherd	Comp	Sivanadiar
62	Voyilar	M	X	Vellala	Sig	Sivanadiar
63	Viranmindar	M	X	Vellala	Adq	Sivanadiar

LEGEND

SEX	MARITAL STATUS	EDUCATION LEVEL
MALE—M	MARRIED—M	COMPREHENSIVE—Comp
FEMALE—F	UNMARRIED—U	SIGNIFICANT —Sig
		ADEQUATE —Adq
		NON-LITERATE —NL

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Tamil Literature as Providing an early Model of Bridging Education and Vocation

Dr. N. VEDAMANI MANUEL

"A few aspects bridging vocation and education in early Tamil are highlighted in this paper in the hope that the meeting of this cultural view-point with modern needs and challenges would help us to build a healthy scheme of Vocational education and work-oriented education."

In primitive societies, life was undifferentiated. Except perhaps for the medicine man and medicine woman, everybody had to participate alike in the day-to-day work. Consequently primitive education also was simple and undifferentiated. It did not need a formal school. But there were plenty of informal opportunities for the young to learn from the elder members how to adjust to the hazards of nature, how to hunt, fish, and otherwise organize one's activities purposefully to get the wherewithals of daily living etc., Education was therefore largely merged with work experience.

In developed traditional societies, life became more complicated. A number of crafts and occupations were developed, and it was impossible for any one individual to master all of them. So different castes or occupational groups specialized in different crafts. This was the traditional model of vocational education. The process was carried out so informally in the home or in the work site that it was difficult to isolate or identify the education component in many cases. In many traditional societies theoretical learning also increased in bulk and a special class (usually the priestly class or the scribe) was assigned the responsibility for preserving and transmitting it. Since the traditional modes of production were time-consuming, it was difficult for a person to do his full quota of bodily labour and also specialize in intellectual labour. Hence some

people were allowed to specialize in the process of transmitting purely verbal knowledge and this gradually came to be understood as the highest, if not the only, form of education.

Formal education thus tends to precipitate out from life and occupations. Ninetyfive percent of the population had to do bodily labour in order to support the other five percent for pursuit of purely mental labour. Gradually, in most societies, occuputions demanding bodily labour were considered as inferior and those involving verbal transmission of knowledge as superior, Manual work, therefore tended to be assigned largely to slaves and those lower in the social ladder. Where a priestly class or leisure class controlled the social order, the class system tended to freeze and turn into a rigid caste or class system.

The Egyptian system is one of the earliest to display this kind of inferiority of bodily labour. Yet they had a system of scribes by which social mobility through education was possible. Eby and Arrowood have given several citations to show how one who had been educated to be a scribe could escape from the exacting and disagreeable lot of the toiler and from forced labour and how he could become a leader among men.

It is however in Ancient Greece that a theory was developed devaluing vocational education and in Ancient Sanskritic codes that the worker was given a permanently inferior position in society. More objectionable than the rules of the 'Dharmic' codes of Manu and others is the 'justification' of the earlier discrimination against the labouring castes in terms of certain psychological 'findings' which prevailed three to four decades back, ignoring the recent findings in theory and practice. Since Tamil literature including the pieces composed and commented upon by Brahmin poets give a more open picture where the liberal education-vocational education dichotomy was already resolved, a serious inclusion of such material in studies of Indian History of Education would be able to give a fuller and truer picture of education in Ancient India. Such fuller data would render superfluous the justifications of

earlier discriminations against work and the worker and lessen the dissonance between Ancient Codes and the modern Constitution and the complexes following from this dissonance.

But a clear understanding of the issue can be got best by studying the case of Ancient Greece, the theorising of the situation there by Aristotle and the critique of the earlier views by Dewey and Marx leading to rich concepts of vocation and education which are not contradictory - but complementary.

The word 'school' comes from the Greek 'skole' which means 'leisure'. Obviously the school was meant for free citizens who had the leisure to attend school, and those who indulged in manual labour (the slaves and the craftsmen) were excluded from it. Aristotle retionalized the social situation as existed in his time into a philosophy and the influence of Aristotle has been responsible for the separation of liberal education from professional and industrial education which have carried over even today.

Aristotle's biology and psychology reinforce his concept of education. Plants have souls which are only nutritive and reproductive. Animal souls are, in addition, motor or practical. The human soul has in addition the characteristic of being rational or noetic. But this rational soul exists only in a few. In the mass of people, vegetative and animal functions dominate. Such people cannot be ends in themselves. They are means or appliances for those who have the reason to direct their own and other lives. They are the natural slaves. Corresponding to these two kinds of men, two types of education are relevant - a mechanical type of vocational education suitable for slaves and craftsmen, and a liberal education suited to the free men, which should nurture and awaken thought, train intelligence for its proper office: to know, to go into a life of theory. According to Aristotle, the less this "knowledge has to do with practical affairs, with making or producing, the more adequately it engages intelligence". Thus theory and practice, knowing and doing, culture and vocation, leisure and labour are sharply separated and made antithetical to each other.

Having summarized the views of Aristotle, John Dewey agrees that 'any occupation or art or study deserves to be called mechanical if it renders the body or soul or intellect of free persons unfit for the exercise and practice of excellence" and that "all mercenary employments as well as those which degrade the condition of the body are mechanical, since they deprive the intellect of leisure and dignity". But Dewey feels that a social custom need not be identified with a natural necessity and that if knowing and doing, mind and body, intelligence and social service are not set against each other we shall get a more justifiable educational theory, one more relevant for a democratic society. To be a means is then not to be menial, to be of service is not servile. Dewey attacks the practice of classifying certain subjects as liberal studies merely because they are useless, and then teaching them in a mechanical manner. To be liberal does not mean to be useless, but to be broad and liberating, free from narrow routine. Since machines have already given everyone a good amount of leisure, it is possible and necessary to develop "an education which, keeping in mind the larger feature of work, will reconcile liberal nurture with training in social serviceableness, with ability to share efficiently and happily in occupations which are productive."

Similarly vocation is not merely a means of earning a living, by doing something which is dull and uninteresting. Vocation really means 'a calling'. According to Dewey, an occupation is "the only thing which balances the distinctive capacity of an individual with social service; it is "continuous activity having a purpose"; it is "an organizing principle for information and ideas, for knowledge and intellectual growth". The development of science and technology has multiplied the intellectual possibilities of industry. Knowledge is now being discovered not in useless, 'liberal' situations, but in meaningful experimental situations in life, in the laboratory and in the workshop. Applied science is not at all inferior in depth or dignity to pure science. Intelligence is

best exercised within activity which puts nature to human use. Such enlightened vocational education is truly liberal.

Marx and Engels also attack the Aristotelian view of vocational education, and also the degradation of labour in capitalistic societies. According to Eagels, far from converting man into a menial or a slave to be treated on a par with beasts, labour is the factor which helped men to take the decisive step in the transition from ape to men. The hand is the organ as well as the product of labour. Labour helped to coordinate work with speech and brain function and helped to increase clarity of consciousness and the power of abstraction. In fact "Work created man".

According to Marx, man's essence lies in active transformation of the material world. In this creative labour process, not only is there material production, but man himself and his abilities take shape and develop and his very essence unfolds and becomes richer. Labour thus reflects man's essence. But labour has an interesting aspect in that "the process of labour disappears in the product". This makes it possible for capitalism to alienate the product of the labour of the worker. Now labour becomes external, and through it man alienates himself, sacrifices himself, violates his nature.

In order to remedy this situation, the marxist theory of polytechnical education was elaborated by Lenin, Krupskaya and others, making work an integral part of education. A very deep theory of work education was developed by later soviet educators. Leontiev says that adults must externalize the required activity, while children must carry out that externally expressed theoretical activity within themselves. Galperin starts from the position that "new types of psychic activity are first assimilated in external-material forms and are then transformed into internal-psychic forms", and thence proceeds to develop a new theory of a stage-by-stage formation of mental actions.

A number of educators in various European countries-Kerschensteiner in Germany, Freinet in France, Ligthart in Belgium-laboured in the first few decades of this century to fight the Aristotelian prejudice against work education. *In our*

country, Tagore and Gandhiji developed theories of work education. and even drawing out all education through work in the face of age-old prejudices against work and the worker, moulded into sacred codes. But many scholars working with Sanskrit sources in the area of History and Philosophy of Education tend to find justification for the ancient educational discrimination against the worker class on the basis of pseudo evidence from the psychology of the first few decades of this centuary. Thus R. K. Mookerji, an otherwise great scholar, in the prologue to his book, covertly suggests a defence of ancient typologies and discriminations :

> The investigations of psychologists like Jung, Jaensch, Spranger, and Krestschmer point out that individuals divide themselves into a number of personality-types in accordance with the trend of their usual behaviour patterns and the ends they seek. These also determine their social and intellectual activities and their vocations, which will vary with the types to which they correspond.
>
> The investigations of Haggerty, Nash and good enough show further that the educational status and vocation of the parents have a significant correlation with the level of capacity of the children, as indicated by the Intelligence Quotient. For instance, the children of Professional parents or those of a higher academic standing possess, on the whole, a higher value of I.Q. The implication of such facts cannot be ignored in schemes of national education.

For the formulation of an education policy in a developing nation, rationalizations like the one given above can be more dangerous than the directly discriminative statements of Manu, prohibiting sudras from learning the vedas under threat of dire penalties ; because these prohibitions imply that sudras were, in fact, capable of learning even the vedas, let alone their secular education for which Sanskrit sources give very little direct evidence Manu also permits that in times of distress a Brahmin can learn under a sudra guru.

Psychological researches since the fifties have given weighty findings sufficient to crush the suggestive findings of Mookerji. There are also some plain experiences in education which demolish such pseudotheory.

As soon as possible after the revolution, the Soviet ethnologists and ethnolinguists studied the language and culture of national (tribal) groups, developed alphabets and grammars for the languages and made them media of instruction at all levels. Now people belonging to these groups compete successfully on equal terms with the Russians. Forcing groups to remain in a particular station, through economic constraints or through preventive codes and then playing a frenzined dance of statistical correlations on their educational corpses is not something that can even be suggested in a civilized democratic society. In the middle 30's the soviet psychologists threw overboard the I. Q. concept and developed an education system in which almost everyone is studying in 10 years a type of highly abstract syllabus which according to the earlier British and American Psychology only the top 15% of the school population could study - in 12 years. Faced with these illuminations regarding polytechnical education, workers' children's education etc., progressive psychologists in the U.K., U. S. A. and France have come out with findings which would make Mookerji's citations look like belonging to another era.

Yet Mookerji was not a prejudiced or undistinguished scholar. Faced with the uneven distribution of knowledge in vedic times, he did look specifically for information about kshatrias and women as Rishis, cases of sudra mothers of scholars, non-Brahmin teachers etc. But having found insufficient evidence, he has indulged in rationalisations of the prevailing state with what materials he could gather from the psychology of his time. A careful study of Bhakthi literature in any Indian language of sociologically decoding the myth in the Puranas would have given him more positive data to be proud of Indian cultural heritage even in the modern context. When the Brahmin pupil tends cattle, he sees in it the highest liberal education through occupations. But when the cowherd himself tends cows,

the shadow of I. Q. and typology is cast there, though it is not plainly told. Bhakti schools all over India show many cowherds in the liberated light. Tamil literature is the earliest available in India which would help us to see that there is no necessary antithesis between education and vocation, and it presents an aspect of Indian culture which need not show undue defence relations when modern social and educational relations are being explored. The caution must be added that gleaning out of such modernization components in early culture can result in a complacence and substitute-gratification, preventing us from facing the present and future, or in developing reversed discrimination models instead of 'reconstructing' for the present and future an egalitarian and intellectually loaded work ethos inspired by the positive model of the past.

A few aspects bridging vocation and education in early Tamil are highlighted in the rest of this paper in the hope that the meeting of this cultural view-point with modern needs and challenges would help us to build a healthy scheme of vocational education and work-oriented education.

There are some scholars who believe that in Sangam times caste did not exist in Tamilagam. Literary references show the existence of caste, but generally, literature as such did not pronounce one's caste as high or low. Where such mention is made it is a reflection of the social esteem. Where it comes to holding out a norm, literature wherever possible puts its weight on the side of egalitarianism and upward social mobility through education. (vide Puram 183). Tirukkuṟal puts forward this view more forcefully:

> Lower are men unlearned, though noble be their race,
> Than low-born men, adorned with learning's grace.
> Learning's irradiating grace who gain,
> Others excel, as men the bestial train.
>
> (Tirukkuṟal, 409, 410 Trs Pope)

The editor of Dewey's Democracy and Education under the discussion of Aristotle's division of men into free rational men, and irrational ones (slaves) comparable to animals, adds as a

footnote that Aristotle did make a distinction bteween natural slaves and actual slaves. If he did, it was blurred in the tone of the overall discussion, and for over 2000 years European educational stratification was based on *not* noticing the difference. But the way Tiruvaḷḷuvar puts education as the distinguishing mark of man, just preceded by a couplet stating that one put down by socical convention can rise up over the higher estate through learning, and avoiding discriminatory offering of education throughout, leaves no room for doubt that education is a fundamental and universal need (and right) and that one's vocation need not be a bar to acquiring it.

Caste is not pictured in Tamil literature as God-ordained, but as arising from geographical, occupational and similar factors. This helps us to see it in a naturalistic and descriptive perspective. Some Tamil scholars have seen it as a social convention or imposition with its effect removable through education. The Jain saints have sung: "As none contemn the ferryman by old caste rule to lowest rank assigned, but cross the stream by help he lands; so take thou teaching good and wise by help of him who is the learned man', Nālaṭiyār 136. Trs Pope).

Tolkāppiyam and the Sangam works are based on the division of land into four, and by extension into five. The properties of these primary factors and the secondary products which grow not of this five-fold land provide the base of literature. These secondary products include not only plant and animal life, but also the occupations, customs, arts and religion of men in each aspect of land. Appropriate themes of love and human-relation are matched with the five-fold land and further extended. Though the tertiary or appropriate themes are the real 'text' in literature, poets have to give equal importance to the primary and secondary content, which have to be carefully worked in as 'pretext' in the form of background and calculated simile - implicit and explicit. In the pretextual treatment of nature and human relations the poet is bound by facts. he has to operate like a natural and social scientist. Thus Kapilar singing the hill region has to operate

like a descriptive botanist (by the standards of his time) of mountain flora and as an anthropologist describing objectively the life and customs of the hill tribes. Just like the modern anthropologist the Samgam poets too describe each tribe and group without a feeling of condescension or contempt. The descriptions as indicated above need to be objective but not necessarily disinterested. The Sangam poet describing nature in the context of man is not observing pure nature, but nature as serving the cause of man. So the botany which Kapilar describes is largely the ethnobotany of the hill tribes-the plants which they nurture and use for food, for medicine, for ornament, for building their huts etc. Thus early man's science is applied science is applied science. The poet naturally goes beyond it. He is governed by the aesthetic and intellectual appeal as well as by the utility dimension.

The utility dimension not only from the folk point of view but also from the poet's point of view cannot be discounted. Strabo reports that in Ancient India (about the Sangam times) there were a number of scholar groups who used to wander about the length and breadth of the country and when they met at the annual Spring Festival they had to report something new, and they were rewarded accordingly. The Sangam Pulavar also frequently wandered from the court to the people in the various regions, and were rewarded materially in the courts and intellectually in the spring Festivals. Vide Pālaikkali.

Nilan nāvil tiritarūvm niṉmāṭakkūṭalār
Pulan nāvil Piṟanta col putituṉṉum poḻutanṟō?

It is not impossible that kings had economic as well as aesthetic and intellectual aims in rewarding poets heavily.

Almost the entire Akam poems loaded with covert/overt similes and seemingly plain nature descriptions, and the 'guidance' works to scholastic and minstrel groups in Pattuppāṭṭu clearly point out to an applied science base in what is ordinarily taken to be pure poetry. The Pattuppāṭṭu sections where the minstrels or dance-drama troupes have their imaginative encounter

with the people in various land types read almost like the instruction given to a field worker in anthropology or in the applied psychology of job analysis. But the fact that the 'scientific' aspects in Akam literature take a 'pretextual' from ensures that poetry is not subordinated to science.

Thus a careful reading of Sangam literature in the 'reconstructive' perspective – (Brameld's educational philosophy dimly hints at this possibility)—can be a basic step in laying the foundations for an indigenous model of vocational education. The author has made out a case elsewhere that modern environmental education is taking very complex architectonics of knowledge processing and that the Sangam literature can be treated as a kind of ethnocurriculum. Several groups of scholars (e.g. the Aspen conference in the U.S.A.) are working on the cognitive component in art and the 'reconstruction' of the Sangam spirit can not only bridge vocation and education, but bring in several interdisciplinary insights as well.

The sharp eye of the Sangam Pulavar combining the artistic and scientific vision and even an element of early technical vision was quick to observe the keen sensitivity and intellect which ordinary folk displayed in protecting themselves against hazards from animals, from nature, from 'chance' and from other groups. Similarly the contrivances which early man makes in building his abode, means of transport, offensive and defensive weapon systems etc. have been noted. The intellect displayed by the carpenter and potter come in for very specific comment. The bigger systems of technology organized in capitial cities by Kings and in temple cities are noted in the epics and in the purānas. In all these things there is a healthy transition from the early display of intellect in labour to the modern and complex combination of knowing and doing, vocation and culture, theory and practice etc. as represented by Dewey and Marx, without any seeming interruption by Manu or Aristotle.

Yet Manu was so close that even early Tamil scholars could not have been ignorant of his teaching. Only Tamil literature did not succumb to the negative aspects of Manuism.

We do not have full details of the dialogue which precipitated Sangam and Tamil ethical literature on more modern and open lines than what is often displayed as the typical representation of Indian literature (Sanskrit also has many progressive aspects, but conventional scholarship has tended to unduly justify and focus the 'closed' aspects of that literature). Tiruvalluvar was obviously aware of the Manu model (but he did not simply adopt or copy ideas from him as some of our pro-Sanskritic scholars seem to imply). In the section on Uḻavu (Agriculture), Tiruvaḷḷuvar typically summarises his reaction to this threat of subordinating the worker to the so-called higher classes and work to verbal intellect. He chooses Agriculture as the typical vocation which combines intellect and utility, the head and the hand. Out of the ten couplets, six are devoted to the glory of the occupation (obviously this is a reply to those who say that such occupations are low or base), two are devoted to the science (of those times) of agriculture and two to the importance of the right attitude to work. Citations of a few complets would be relevant (Pope's Translation):

Howe'er they roam, the world must follow still the ploughmen's team,
Though toilsome, the culture of the ground as noblest toil esteem. (1031)

The ploughmen are the linchpin of the world; they bear
Them up who 'other works perform, too weak its toil to share. (1032)

Who ploughing eat their food, they truly live;
The rest to others bend subservient, eating what they give. (1033)

When master from the field aloof hath stood;
Then land will sulk, like wife in angry mood. (1039)

The earth, that kindly dame, will laugh to see,
Men seated idly, pleading poverty. (1040)

The Sangam poets were drawn from all castes: farmers, shepherds, tillers, carpenters, sculptors, hunters, goldsmiths, potters, cloth merchants, salt vendors, grain merchants, besides princes, brahmins, minstrels and dance-drama exponents. If we

analyse the content of these poems, it would be seen that some of the most daring poems (intellectually and socially) have come from men and women whom we would now call scheduled castes and tribes (e.g. Kaṭuvan Maḷḷanār, kaṭuvan Iḷa eyinaṉār, Pullāṟṟūr Eyiṟṟiyanār, Veṇṇikkuyattiyār, Avvaiyār and others. It would be clear from these poems that their authors were not men and women boosted up through backward quotas, but earned their position and rating (varicai) through merit.

While the Sangam spirit is quite clear on this aspect, some mediaeval commentators who had to compromise between the varna ethos promoted through the temples (with Manu's and other codes as governing principles) and the egalitarian ethos as reflected in Sangam literature (which too became sacred once Lord Siva was accepted as the President of the Head Sangam). Thus an intelligent commentator like Naccinārkkiniyar wobbles in a peculiar way in commenting on the sutra: "Vēṇṭiya kalvi yāṇṭu mūṉṟiravāṭu" whereas Iḷampūraṇar interprets it directly as "The needed education shall not exceed (a period of) three years", our learned Māṭṭu-specialized commentator, twists the syntax in all sorts of ways to read the meaning he wants into the sūtra: "Kalvi vēṇṭiya yāṇṭu iravātu, mūṉṟu iṟavātu", i.e., the separation for education shall not exceed the number of years needed for each veda, it shall not exceed the three: *tat tvam asi.*" The assumption that only Brahmins can learn is attempted to be inserted even in a work in which the hunter, the shepherd the farmer etc. can be heroes in a system in which scholars can be drawn from all occupational groups. In separation for education *after* marriage, the āsrana is already violated. So what avails the defence of the varma in this context. But to the etternal glory of Naccinārkkiniyar it must be said that he has not attempted to tamper with the original text so that a school boy today can see through the bull-like insistence rather than rational logic in his māṭṭu.

This has been dealt with at some length just to show that Manuistic dichotomy of vocation and culture, labour and leisure was attempted to be imposed in Tamilagam in the mediaeval ages in full force and was perhaps imposed in social

life, but excepting for some ambient stances by some commentators, Tamil literature refused to accept it as a norm at any stage.

To the mediaeval poets, even of the orthodox sects, the acceptance of the vedic schools and even codes along with the South Indian Bhakti schools presented no problem. They accept nānmaṟai (the four vedas) and even Manuneṟi (for perhaps the positive aspects) in principle or as a formula in the prologue, but insist on equality as a literary and Bhakti norm in the unfoldment of the theme. (This is definitely better than the position of the mediaeval minds today which assert eqality as a formula, but show unwarranted discrimination in several ways.) Appar, Tirumūlar and the Cittars have used craft metaphors to "draw out" higher spiritual ideas. Mānikka vācakar uses the occupational and play songs of girls to convey spiritual ideas. Cambander describes nature and the folk activities in every saivaita centre visited, with the same objectivity as any sangam poet. The Saivaite and vaishnavaite saints have been drawn from several occupational groups showing that real spiritual education is possible for every occupational group.

The treatment of the saints by Cēkkiḻār graphically portrays the concept of liberal education (in the higher sense) through any occupation. The Saivaite saints of Periapurānam follow several occupations, but in every case they do not pursue it for narrow gain or selfish ends and usually their liberation comes through their specific vocation extended out on the broadest, infinite plane. Thus the potter saint is liberated through a broken pot, the tiller saint plucks his sins and bondage when he digs out the last seed grains and sprouted greens to feed his Divine Guest, the merchant saint weighs out all his valuable stock against the Divine Guest's loin cloth and finding that they cannot balance the infinite Trifle, places himself with his family on the scales and balances the infinite power with his infinite love. Saint Appar takes upon himself the task of cleaning and sweeping the temple, and when precious stones appear as the dust heap, he removes them also from the

sacred precincts with the same detachment. Perhaps the best model of liberal education through a humble occupation occurs when the hunter saint Kaṇṇappar digs his own eye for the cause of Divine Love with the same arrow with which he would pierce the animals. Lord Siva uses this simple man's self - realization to give a model lesson to the Brahmin. (It must be noted that the Brahmin himself is a devout, disinterested Brahmin performing his dutiful ritual in a remote hill) :

His form is all of love to me
His knowledge is in knowing me
His actions all are ṣweet to me
His state is thus and this thou'lt see.

The water carried in his mouth,
A vessel all of melting love,
Is holier far than Gangas stream
That flows from off the sage's ear.

The meat that's bitten in his mouth
To test in love its tastefulness
Is sweeter far than Havis poured
By Brahmins in their yagas great.

The Vedas wise which sages tell
And praises sweet and mantras great
cannot compare with the unknowing words
of him whose love knows none but me.

(Periapurānam : vv 157 - 162).

Thus the mediaeval attempts at separating education and vocation were thwarted by the Bhakti poets everywhere, but in Tamil, with a perculiar flavour of its own. The legend of a conch-cutting poet Nakkīrar is a case of intellect-work combination willing to face even divine wrath for the cause of academic freedom. In this case Lord Siva not only writes the 'thesis' for the relatively uneducated priestly Brahmin, but comes out to defend it against Nakkīrar's questions. When Lord Siva derides the caste of the poet, the poet retorts: "Our clan lives by cutting conch. But what is Lord Siva's clan?"

In another secular legend, the great Poet Pukaḻēnti, imprisoned unjustly by the cōḻa court poet Oṭṭakkūttar, trains certain craftsmen lodged in the prison to face the court poet in the Navarātri verbal contest. They get the upper hand over the mighty court poet by replying with poems imprinted with their own occupational mudras.

These legends may be apocryphal, but their persistence is a fact, which reflects the persistent belief of the Tamil literature that one's occupation need be no bar against education and scholarship. Education can be acquired not merely in spite of one's occupation, but *through* any occupation.

More recently poet Bhārati, protesting against the anglicised verbal education divorced from life and our own mediaevalistic verbalistic tradition, asserts that the Goddess of Learning would not countenance a dichotomy between work and learning:

Chanting mantras, murmuring,
Arraying well the leaflets old,
Smearing sandal, strewing flower,
These are not what she demands.

X X X X X

Let's learn the science of sweeping the street.

Epics we shall make, forests we shall raise,
Arts we shall advance, and the smith's furnace,
We shall paint and dance and make needles too,
All the work of the world, we shall do with joy.

We have passed through technological revolutions and reached the computer Age. The dichotomy between vocation and education, the prejudice that education for excellence is possible only for a select few is not only incompatible with the present Age, but also belied by several great educators in India and abroad. Still several scholars and even educational policy makers represent a traditional frame of mind, either because they are incompetent or because in their heart of hearts they believe that this is the essence of Indian culture.

The democratic educational heritage of the Tamils bridging education and vocation should be brought back to life and applied in real situations. If this lead is shown by the enlightened Tamil world today, such progressive components will be discovered in the other Indian languages too, and Tamil scholarship would have contributed in putting Indian culture and education on a progressive phase.

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Literacy Scene in Tamil Nadu

P. ADINARAYANA REDDY

"Illiteracy is a major cause and consequence for ignorance, poverty and underdevelopment. At present, there are an estimated 889 million adult illiterates in the world, and 60 Percent of them are women. It was estimated that 500 millions of illiterates will be there in India by 2000 A.D. Tamilnadu occupies 7th rank in literacy and 10th rank in the size of population in India. It is welcoming feature since the magnitude of illiteracy is decreasing year by year',

Through the ages, humanity has been confronted with several problems arising out of the changed societal environment and tries to evolve appropriate strategy for their solutions based on the modern scientific and technical know-how. Inspite of several attempts to wipe out illiteracy and poverty, these are becoming unsolvable and also becoming major abstacles in the development of individual and nation as a whole. Poverty and illiteracy are inter-related and two sides of the same coin and must simultaneously be wiped out by creating an awareness among the people about its ill effects on the developmental front and should provide more avenues for their education in order to rise the literacy percentage.

A number of countries in the world are confronted with vicious circle of illiteracy and ignorance is quite grave and disturbing. Despite the tremendous efforts in eradication of illiteracy, the literacy percentage is increasing at a slow rate and at the same time absolute number of illiterates are growing and tackling illiteracy becoming an unmanageable task due to the population explosion. At present (1985) there are an estimated 889 million adult (above 15 years) illiterates in the world, and 60 percent of them are women. Illiteracy is a major

cause and consequence for ignorance, poverty and underdevelopment. It is evident from the fact that 98 percent of the world's illiterates live in developing countries. The vast majority, 666 millions or three fourths of the total live in Asia, particularly in the countries of the subcontinent of Asia and in China. The African continent has the highest rate of illiteracy 54 percent or more than half of the population. illiteracy rates are also high in Asia 36.3% and in the Latin American and Carbbean region 17.3 percent. The magnitude of illiteracy in selected countries are shown below :

Table 1

Illiteracy: A comparison – Number of illiterates aged 15 and above (in millions)

	Years	
Country	**1970**	**1980**
India	208.1	243.1
Indonesia	30.3	29.2
Bangladesh	25.8	26.9
Pakistan	24.9	29.8
Nigeria	23.1	27.6
Brazil	18.4	18.1
Euthiopia	13.2	16.7
Egypt	11.0	11.7
Iran	10.9	11.1
Afghanistan	8.9	10.7
Sudan	7.3	9.1

From the above table, it is evident that the absolute number of illiterates are increasing decade to decade in millions. If the trend continues to be the same, the illiteracy becomes a permanent feature and unsolvable problem. It was estimated that 500 millions of illiterates will be there in India by 2000 A.D.

Literacy in India

India is one of the biggest democratic countries occupies seventh position interms of area and second position interms of population in the world. The literacy growth in India has been slow but progressive. Starting from 1901 the literacy rate is increasing slowly from 5.35 percent to 36.23 by 1981 i.e., during 80 years only 30.88 percent has been increased. The percentage of literacy growth in India from 1901 to 1981 are shown in Table 2.

Table 2

Percentage of literacy in India from 1901 to 1981

Year	Persons	Male	Female
1901	5.35	9.83	0.69
1911	5.95	10.56	1.05
1921	7.16	12.21	1.81
1931	9.50	15.59	2.93
1941	16.10	24.90	7.30
1951	16.67	24.95	7.93
1961	24.02	34.44	12.95
1971	29.45	39.45	18.70
1981	36.23	46.89	24.82

Inspite of the literacy growth, the number of illiterates are also growing due to population explosion, lack of educational facilities, illiteracy and ignorance of the parents. The total population, literate population and illiterate population of the

age group 15 years and above for the selected decades are shown in Table 3.

Table 3

Adult literacy scene in India (in millions)

Year	Total population	Literates	Illiterates
1961	258.85	71.85 (27.8)	187.00 (72.2)
1971	317.82	108.32 (34.1)	209.5 (65.9)
1981	414.00	169.00 (40.8)	245.00 (59.2)

(Figures in the parantheses are percentages to the total population)

The above table clearly shows that only 27.8 percent are literate in 1961, and it is 34.1 percent in 1971 and 40.8 percent in 1981 respectively. At the same time the percentage of illiterates is decreasing but the number of illiterates Is increasing at a rapid rate.

The literacy rate in females is very poor compared to their counterparts males. The literacy growth among the females both interms of absolute numbers and percentage are shown in the Table 4.

Table 4

Female literacy level in India between 1961 to 1981 of the aged 15 and above

Year	population (millions)	Literates (millions)	Percentage
1961	212	27.6	12.9
1971	264	49.4	18.7
1981	318	79.2	24.9

The percentage of literacy among adult women is very less and is 12.9 percent in 1961, 18.7 percent in 1971 and 24.9 percent in 1981. It clearly shows that more than three-fourths of our women are illiterates.

As a sum up, in India in 1951, the percentage of literacy was 16.67 and in 1981 it is 36.23 that is the number of literates thus increased from 6 crores in 1951 to 24.8 crores in 1981. But at the same time the number of illiterates has also increased from 301 millions in 1951 to 446 millions in 1981.

There is a greater disparity between male and female literacy rate, the former being 46.9 percent and later 24.8 percent This is more accentuated in rural areas (40.8 and 18 respecttively) than in urban areas (65.8 and 47.8 respectively). Kerala occupies first place in literacy percentage (70.4%) while Rajasthan the least (24.38%). Tamil Nadu occupies 7th position in litercy with 46.76 percentage with 22.6 millions of literates out of 48.4 millions.

Literacy scene in Tamil Nadu

Tamil Nadu is famous for its culture i. e., Tamil culture. It is one of the stable States interms of socio, economic, political aspects in Southern part of India. It has an area of 1,30,058 square kilometers with a population of 48.4 millions. It occupies 7th rank in literacy and 10th rank in the size of population in India. Its density of population is 372 per squar kilometer. It consists 16 districts.

According to 1961 census, population of Tamil Nadu is 33.6 millions and in 1981 it is 48.4 millions. In a space of 20 years the number of population was increased by 14.8 millions. when we look at literacy rates, it is 34.4 percent in 1961 and 46.76 percent in 1981. There is a satisfactory growth in literacy though it is only 0.76 percent per year. Inspite of the literacy growth, the illiteracy is also growing interms of absolute numbers. In 1961, there were 23.1 millions of illiterates and in 1981, it is 25.7 millions. There was an increase of 2.6 millions of illiterates and at the same period literate

population was increased about 12 millions. It is welcoming feature since the magnitude of illiteracy is decreasing year by year.

The percent of literacy growth in different groups in 20 years from 1961 to 1981 are:

— 15.36 percent of literacy rate was increased in case of total population (31.4% in 1961 and 46.76% in 1981). The average rate of increase per year being 0.76%.

— 13.69 percent in case of males and 16.82 percent in females.

— 13.89 percent in case of rural population and

— 13.55 percent in case of urban population.

The literacy growth to total population and literacy percentage are shown in the Table 5

Table 5

Literacy scene in Tamil Nadu

Year	Population (millions)	Literates (millions)	Literacy percentage
1961	33.68	10.58	31.40
1971	41.19	16.25	39.45
1981	48.40	22.63	46.76

According to 1961 census 10.5 millions out of 33.6 millions were literates (male 7.5 millions and female 3 millions). Out of it 44.57 percent and 18.17 percent of males and females are literates respectively. Among the rural population (24.69 millions) 6 millions (24.67%) were literates (male 4.6 millions) (37 81%) and female (11.57%) (1.4 millions) and 4.48 millions i.e., 49.9 percent of urban population were literates. Out of them 38.71 and 11.57 percent of males and females are literates.

Table - 6

Statement showing the total population, sex-wise, number of literates and percentage of literates

Year	Total population			Number of literates			Percentage		
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
1961	33,686,953	16,910,978	16,775,975	10,580,616	7,532,323	3,048,293	31.4	44.57	18.17
1971	41,199,168	20,828,021	20,371,145	16,256,393	10,783,783	5,472,610	39.46	51.77	26.86
1981	48,408,077	24,487,624	23,920,453	22,637,659	14,267,331	8,370,328	46.76	58.26	34.99
RURAL POPULATION									
1961	24,696,425	12,331,586	12,364,839	6,093,499	4,662,846	1,430,653	24.67	37.81	11.57
1971	28,734,334	14,438,727	14,295,607	9,231,587	6,518,218	2,713,369	32.12	45.14	18.98
1981	32,456,202	16,334,231	16,121,971	12,516,223	8,356,454	4,159,769	38.56	51.16	25.80
URBAN POPULATION									
1961	8,990,528	4,579,392	4,411,136	4,487,117	3,049,477	1,617,640	49.90	66.59	36.67
1971	12,464,834	6,389,294	6,075,540	7,024,806	4,265,505	2,759,241	56.35	66.76	45.41
1981	15,951,875	8,153,393	7,798,482	10,121,436	5,910,877	4,210,559	63.45	72.50	53.99

The total population, number of literates and percentage of literacy from 1961 to 1981 was shown in the Table 6. The position of literacy in TamilNadu compared to other states in India is shown in Table 7. District-wise literacy rates in Tamil Nadu is found in Table 8.

Table - 7

Literacy Rates 1981 (including population of age group 0-4 years) in different States and Union Territories in India

STATES	Total Population T	M	F
INDIA * @	36.23	46.89	24.82
1. Andhra pradesh	29.94	39.26	20.39
2. Bihar	26,20	38.11	13.62
3. Gujarat	43.70	54.44	32.30
4. Haryana	36.14	48.20	22.27
5. Himachal pradesh	42.48	53.19	31.46
6. Jammu & Kashmir @	26.67	36.29	15.88
7. Karnataka	38.46	48.81	27.71
8. Kerala	70.42	75.26	65.73
9. Madhya pradesh	27.87	39.49	15.53
10. Maharashtra	47.18	58.79	34.79
11. Manipur	41.35	53.29	29.06
12. Meghalaya	34.08	37.89	30.08
13. Nagaland	42.57	50.06	33.39
14. Orissa	34.23	47.10	21.12
15. Punjab	40.86	47.16	33.69
16. Rajasthan	24.38	36.30	11.42
17. Sikkim	34.05	43.95	22.20
18. TamilNadu	46.76	58.26	34.99
19. Tripura	42,12	51.70	32.00
20. Uttar Pradesh	27.16	38.76	14.04
21. West Bengal	40.94	50·67	30.25

* Excludes Assam where census could not be held

@ Excludes the population of area under unlawful occupation of Pakistan and China where census could not be taken.

UNION TERRITORIES		Total Population	
	T	M	F
1	2	3	4
1. A. & N. Islands. ...	51.56	58.72	42.14
2. Arunachal Pradesh ...	20.79	28.94	11.32
3. Chandigarh ...	64.79	69.00	59.31
4. D. & N. Haveli ...	26.67	36.32	16.73
5. Delhi ...	61.54	68.40	53.07
6. Goa, Daman & Diu ...	56.66	65.59	47.56
7. Lakshadweep ...	55.07	65.24	44.65
8. Mizoram ...	59.88	64.46	54.9
9. Pondicherry ...	55.85	65.84	45.71

SOURCE :

Census of India 1981

Series - 1 India

Part II - B - (i)

Primary census Abstract General Population.

Table - 8

Statement showing district wise, sex wise population Number of Literates and Percentage of Literacy.

State	Total population			Number of literates			Percentage of literacy		
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
TAMILNUDU	48,408,077	24,487,624	23,920,453	22,637,659	14,267,331	8,370,328	46.76	58.26	34.99
Madras	3,276,622	1,694,107	1,582,515	2,241,149	1,280,772	960,377	68.40	75.60	60.69
Chengalpattu	3,616,508	1,848,124	1,768,384	1,735,904	1,103,788	632,116	48.00	59.72	35.75
North Arcot	4,414,324	2,230,559	2,183,765	1,805,086	1,192,829	612,257	40.89	53.48	28.04
South Arcot	4,201,869	2,130,444	2,071,425	1,545,288	1,052,086	493,202	36.78	49.38	23.81
Dharmapuri	1,997,060	1,019,362	977,698	579,163	397,306	181,857	29.00	38.98	18.60
Salem	3,441,717	1,765,822	1,675,895	1,352,381	881,948	470,433	39.29	49.95	28.07
Periyar	2,068,462	1,057,599	1,010,863	823,494	547,428	276,066	39.81	51.76	27.31
Coimbatore	3,060,184	1,569,570	1,490,614	1,625,083	1,005,175	619,908	53.10	64.04	41.59
Nilgiri	630,169	321,995	308,174	356,168	218,122	138,046	56.52	67.74	44.79
Madurai	4,535,897	2,296,614	2,239,283	2,148,345	1,365,957	782,388	47.36	59.48	34.94
Tiruchirapalli	3,612,320	1,819,668	1,792,652	1,647,804	1,063,290	584,514	45.62	58.47	32.61
Thanjavur	4,063,545	2,043,724	2,019,821	2,046,358	1,280,056	766,302	50.36	62.63	37.94
Pudukkottai	1,156,813	576,335	580,478	447,619	309,143	138,476	38.69	53.64	23.86
Ramanathapuram	3,335,437	1,648,422	1,687,015	1,511,473	971,210	540,263	45.32	58.92	32.02
Tirunelveli	3,573,751	1,748,321	1,825,430	1,863,450	1,106,722	756,728	52.14	63.30	41.45
Kanniyakumari	1,423,399	716,958	706,441	908,894	491,499	417,395	63.85	68.55	59.08

According to 1971 census, there were 41.1 millions of population of which 20.8 millions and 20.3 millions are males and females respectively. 16.2 millions out of 41,1 millions were literates i.e., 39,46 percent (males: 10.7 millions and females 5.4 millions) out of it 51.77 precent are males and 26,86 percent are females. Among the rural population (28.7 millions) 9.2 millions were literates (male: 6.5 millions (45.14%) and females 2.7 millions (18.98%). Whereas in urban population (12.4 millions) 56.35 percent were literates (7 millions) of them, 66.76 percent were males (4.2 millions) and 45.41 percent were females (2.7 millions).

According to 1981 census, Tamil Nadu has 48.4 millions of population (males 24.4 millions and females 23,9 millions) among them 22.6 millions were literates (males 14.2 millions and females 8.3 millions).

— About half of the Tamilians are literates i.e., out of every 100, 46 of them were literates.

— More than half of the males were literates i.e., out of 100, 58 were literates.

— About one third of the females were literates.

Literacy in rural and urban population

— 125 lakhs out of 324 lakhs were literates among rural population i.e., five out of every 13 members in rural areas were literates (half of the males and one-fourth of the females literate).

— Out of 101 lakhs, 59 lakhs of urban population were literates i.e., 12 out of 19 members were literate (5 out of 7 males and 7 out of 13 females were literate).

Literacy in Scheduled Castes

— There were 88 lakhs of Scheduled Caste population (male 44 lakhs and female 43 lakhs) distributed in 16 districts.

Of them 70 lakhs were rural areas and 17 lakhs in urban areas. Their percentage to the total population is 18.34.

— 26 lakhs out of 88 lakhs were literates (male 18 lakhs and female 8 lakhs) i.e., 3 out of 10 is literate in Scheduled Castes (2 out of 5 men and 2 out of 11 women were literates).

— 18 lakhs out of 70 lakhs in rural areas and 79 thousands out of 17 lakhs in urban areas were literates.

— One out of every 4 in rural areas and four out of 9 in urban areas were literates.

— Out of every 11 males, one and one out of every 7 females were literate in rural areas.

— Out of every 9 males, five and one, out of 3 females were literate in urban ureas.

Scheduled Tribes

Scheduled Tribes constitutes 1.07 percent to the total population. Their population is 5.2 lakhs (males 2.6 lakhs and females 2.5 lakhs). Out of them 4.6 lakhs were in rura areas and 50 thousands were in urban areas.

— Out of 5.2 lakhs only 1.05 lakh Scheduled Tribes were literates (males 70 thousands and females 35 thousands). Out of five, one is literate in total population. 5 out of 19 males and 4 out of 29 females were literate.

— Out of 4.6 lakhs, 89 thousands in rural areas and 17 thousands out of 50 thousands in urban areas were literates.

— Out of every 11, two in rural areas and one out of every 3 in urban areas were literates.

— Among rural population one - fourth of the males and one - eighth of the females were literates.

— Out of every seven males, one and one out of four were literates in urban areas.

Literacy rate in districts

— Out of the 16 districts only one district is having literacy rate below 30 percent, between 30-40, 4 districts ; 40-50 five districts and six districts with more than 50 percent of literacy rate.

— There is only one district namely Dharmapuri (29%) is having below national literacy level (36.23%).

— There are 8 districts with literacy rate below the State level literacy 46.76 percent.

— When females were taken into consideration one district falls between 10 to 20 percent, five districts each between 20 to 30 and 30 to 40%, 3 districts between 40 to 50 percent and only two districts with above 50 percent of literacy.

— There are only three districts in State having literacy rate below the national literacy level (24.82%) in females viz., Dharmapuri (18.60%), South Arcot (23.8%) Pudukkottai (23.86%).

— Among 16 districts the maximum number of literates are in Madras district, and maximum of female literates are also in Madras district. Maximum number of literate men are in Madurai district.

— Madras district is having highest literacy level 68.40% and Dharmapuri district has the lowest literacy level (29%).

Comparison with national literacy level

— Among 30 states and Union territories in India, Tamil Nadu occupies 7th rank interms of literacy percentage (46.76%), Kerala with highest literacy percentage (70.4%) while the lowest percentage was in Arunachala Pradesh (20.79%).

— Literacy percentage in Tamil Nadu 46.76 which is above the literacy level of India (36.23%).

— Literacy percentage in females in Tamil Nadu is 34.99% which is above the literacy level of females (24.82%) in India. Highest female literacy is in Kerala 65.73% and lowest is in Arunachala Pradesh 11.32%.

— Literacy percentage in males in Tamil Nadu is 58.26% which is also above the literacy level of India 46.89% highest is in Kerala (75.26%) and lowest is in Aruna hala Pradesh (28.94%.)

— Out of 402 districts in India 244 districts are having below the national literacy rate, whereas in Tamil Nadu out of 16 districts only one district is having below the national literacy rate.

— In India, 253 districts out of 402 districts are having below the national level literacy rate in females whereas in Tamil Nadu 30 out of 16 districts are having below national literacy level.

So far, the literacy scene in India with special reference to Tamil Nadu was described and now the efforts made by the Government of Tamil Nadu for the eradication of illiteracy will be discussed.

A large number of our adults cannot take active part as well as contribute in the process of social construction and national development because they are illiterates. Illiteracy is more prominent among Scheduled Castes, Scheduled Tribes and women belonging to rural areas in Tamil Nadu. There are wide variations interms of literacy levels, between the male and female, Scheduled Castes and Scheduled Tribes on the one hand and remaining population on the other and urban and rural population. Further, the persons in the age group of 15-35 years play a vital role in socio-economic development of the society, but unfortunately at present a large number of them are illiterates. So, they cannot make their participation effectively in

the developmental activities. It is rather unfortunate that inspite of realising the need and importance of adult education we could not start any significant adult education programmes till 1978 for removing adult illiteracy.

Government of Tamil Nadu has taken steps to begin the massive adult education programme on par with the other States in India, by taking major burden of implementation of the adult education programme. The first phase of this programme began in January/February 1980.

Adult education programme in Tamil Nadu has been implementing by the voluntary agencies, Nehru Yuvak Kendras, Universities and Directorate of Non-Formal and Adult Education which is implementing the rural functional literacy projects and the State adult education programmes of the Tamil Nadu.

The Table 9 shows that State Adult Education Programme is dominating the field by having more adult education centres compared to other agencies. Rural functional literacy programme financed by the Central Government occupies second position. Whereas U. G. C. financed centres are only 747. It shows that educational institutions and students were not effectively involved or utilised for this noble task. Efforts must be made to involve more and more educational institutions and students in the eradication of adult illiteracy.

Table 9

Number of adult education centres organised by different agencies as on June 1984

Agencies	No. of centres
SAEP	11,500
RFLP	4,803
VA	1,150
NYK	109
UGC	747
Total	18,306

The number of adult education centres organised and enrolment of adult learners in the centres during 1981 to 1984 are shown in Table 10.

Table 10

Number of Adult Education Centres (during 1981-84) and enrolment of learners

Year	Number of centres	Enrolment
June		
1981	9,995	3,24,257
1982	9,941	3,25,956
1983	11,181	3,66,616
1984	18,306	5,81,893

By June 1981 9,995 Adult Education Centres were in operation with as enrolment of 3,24,257 adult learners in the age group 15-35 years. The number was increased to 18,306 adult education centres by June 1984 with an enrolment of 5,81,893 adult learners. It clearly indicates that the Government of Tamil Nadu is committed for the eradication of illiteracy and the adult education programme is going to be strengthened.

Conclusion

A socially conscious, vigilent and literate community has a vital role in a democratic society and it is a precondition for the development of socio-economic status of the people. Hence, Adult Education Programme, that is already there must be strengthened and should be expanded to cover all the illiterate population at least by 1990 by giving priority to S. C., S. T. and women as the bulk of the illiterates are from this group. The post - literacy and continuing education programmes should also be strengthened as these are the programmes helps the individuals to retain the literacy already acquired and helps them to continue their education.

Vocational Education in Homescience

Dr. RAJAMMAL P. DEVADAS

"With a fast changing technology and an ever accelerating pace of socio-economic changes, Vocational education is essential to inculcate in students in the capacity to apply their knowledge to the solution of concrete problems which they face in life."

Introduction

The aim of ture education is to draw out the best in the individual to the best advantage of the society in which he lives. A full development of the educated child is all the more possible and assured only if theoritical book studies go hand in hand with manual work in the form of practical work modelling or learning a craft.

The general pattern of 10+2+3 education was introduced in Tamilnadu from the acedemic year 1978-79. General education and vocational education, were introduced as the two streams at the +2 stage. The vocationalised courses one offered under six categories.

1) Agriculture
2) Homescience
3) Commerce and Business
4) Engineering & Technology
5) Health
6) Miscellaneous.

Homescience

The Home has been instrumental in determining a nation's moral and material progress, ever since civilisation began. By

catering to the physical, emotional and spiritual needs of the members, the home gives meaning to life, provides a suitable environment for the growth of children and cultivates and refines the quality of citizens. A good home builds character, ensures happiness and directs the individual and community towards betterliving.

To day's homemakars have the responsibility of not just keeping the house but also moulding the home, the community and the nation. Their contribution as wise mothers, citizens, consumers, leaders and scholars will determine the strength and prosperity of the nation. To fulfil these multivarious roles, men and women need an education based on all that is best in our culture, science and technology. Home science education fulfils this need since it deals with all aspects of family and home life. It is an application of many sciences and arts towards achieving heal thier and happier human beings. It includes knowledge of basic sciences and arts as well as applied sciences, such as natrition, food, clothing, housing, child care, hygiene, home nursing, home management, and human relationships. Abunant life is its goal.

By its philosophy and nature homescience helps to develop sound values and appreciations. It makes a contribution towards increasing health, happiness, and fulfillment in the homes. It helps to develop a sound philosophy of personal and home living. Education for home and family living teaches people how to live together.

Objectives of Homescience vocational Education :

The objectives of Homescience vocational Education are to :

1. Eqiup youth to enter on occupation suited to his / her abilities.
2. Provide for the development of vocational preparedness.
3. Acquaint the children with the world of work and services going on in the community, and develop in them a sense of respect for manual workers.

4. Lead children to participate increasingly in productive work, as they go from one stage of education to another, and thereby enable them to earn while they learn.
5. Inclucate positive attitudes of team work and socially desirable values like self reliance, dignity of labour, tolerance co-operation, sympathy and helpfulness,

   earn while.
6. Offer a responsible opportunity for personal growth and social usefulness.
7. Stimulate intellectual curiosity.
8. Cultivate the ability to think rationality
9. Develop an appreciation of ethical value.

The most important objectives of vocational education is to prepare a student for a proper vocation in life by enabling him to complete an educational course. With a fast changing technology and an ever accelerating pace of socio-economic changes, vocational education is essential to inclucate in students in the capacity to apply their knowledge to the solution of concrete problems which they face in life.

Need for Vocational education for girls

It has been well recognised that women in addition to being the homemakers, have also taken up gainful employment outside the home. Following are some of the reasons for providing suitable education to girls which will integrate the concepts of family with the concepts of gainful employment.

1. Most women work because of economic necessity.
2. The occupational aspirations of girls.
3. The number of women in the labour force has increased.
4. Having two or more number of sources of income in the family is becoming necessary to meet the cost of living.
5. In future, more number of girls are expected to be gainfully employed.

6. Divorce, separation and death of husband leave many middle aged women as displaced homemakers with no means of financial support and

7. Women who are engaged in gainful employment continue to do the household work also.

These reasons are indications for providing meaningful education to girls through the introduction of vocational Homescience courses.

Vocational subjects offered in the field of Homescience in Tamilnadu

The following branches are offered in the vocational education under Homescience. They help the home makers to fulfil the twin role of being a mothers of the family and a career women.

1. Baking and Confectioner
2. Catering
3. Child care and Nutrition
4. Designing, dyeing and printing
5. Dress designing and making
6. Dietetics, Nutrition and Food preparation
7. Food preservation
8. Interior decoration and
9. Textiles and clothing

With knowledge in these subjects, the Homescience students who come out of the vocationl strems of Higher Secondary Education are competent to have the requirements expected of the employers.

Homescience imparts knowledge of better nutrition, hygiene, environmental sanitation, homenursing, infant care and health habits which contribute towards making the nation healthy and strong.

Nutrition in an integral part of Homescience. Learning nutrition helps people to recognise that good Nutrition is important for good health and good health is basic to good living. Knowledge of nutrition helps to develop good food habits, spend even the limited income wisely on food and overcome the threats of malnutrition. Only well-nourished citizens with adequate mental and physical capacity can keep the nation strong.

Study of child Development stimulates and strengthens parents, enriches family living and brings new values to the art of child-rearing. Knowledge of Child Development helps mothers to bring up children fit for the democratic way of life.

Home management helps to implement better living by developing skills in planning the use of resources available to the family, for the optimum achievement of the aspirations and expressions of human values.

Textiles and clothing which is another essential component of Homescience, imparts knowledge on selection, use and care of clothing for the family members.

Homescience Extension Education helps rural people utilise to the best advantage the products of their labour in agricultural production through improving their nutritional status, health and standard of living. Study of sociology as part of Homescience prepares one to live happily in the ever changing society of today and tomorrow.

Homescience also finds a very important role in teacher education to equip future teachers to carry the message of Home science to the community through the pupils.

Job opportunities in the field of Homescience

The following are the prabable employment opportunities for each occupational area.

1. **Baking and confectionery**

   a) Self employment

   b) Bakery unit

2. **Catering**

   a) Organising and administering
   — Hotels and Restaurents

   b) Self employment

3. **Child care and Nutrition**

   a) Organising and administering Balwadies, Creches, and Nursery Schools

   b) Work in the Balwadi and Nursery Schools

   c) Work in child clinics

   d) Work in Midday Meal Scheme

   e) Work in creches

4. **Designing, Dyeing and printing**

   a) Work in mills

   b) Work in dyeing and printing factories

   c) Self employment

5. **Dress Designing and making**

   a) Self employment

   b) Work as needle work assistant in schools and tailoring units

   c) Establishment of garment manufacturing units

   d) Work in Ready made shops

6. **Dietetics, Nutrition and Food preparation**

   a) Work as Dietitions

   b) Work in canning Institutions

   c) Work in hostels

7. Food Preservation

a) Self employment
b) Work in canning centres
c) Start their own small scale food preservation units
d) Work as assistants in food processing units

8. Interior Decoration :

a) Undertaking consultations
b) Doing home decoration and in restaurants and other places

9. Textiles and Designs

a) Work in Khadi village Industries
b) Work in textile mills
c) Work in Dry cleaning centres

To day India is facing great challenges in her efforts towards self-reliance and in solving the nation's problems. The home has a decisive contribution in these efforts. Homescience is not merely a subject, but a unique blend of scientific knowledge, human values, aesthetic qualities, harmonium living interactions and household processes. Hence all programmes of education, at all stages need to incorporate Homescience.

—[o]—

Education as revealed in Tamil Didactic works

Dr. C. BALASUBRAMANIAN

"The Tamil didactic works not only praise the greatness of education but also lay stress on the ignominy of the illiteracy."

Introduction

The Tamil race is very ancient one whose origin is untraceable[1]. Tholkappiyam and Sangam works are its important treasures. The Tamil Language emphasizes the value of virtue. The ancient Tamils led a virtuous life. The Sangam works consist of didactic thoughts abundantly. Even during wars they preserved virtues. Their system of war was also based on virtue. This is evident in the Puram song by Pandiya King Palyākachālai Mudukudumip Peruvaḷuthi :

āvum āṉiyaṟ pārppaṉa mākkaḷum
peṇṭirum pīṇiyuṭai yīrum pēṇit
teṉpula vāḻnark karuṅkaṭa ṉirukkum
poṉpōṟ putalvarp perāa tīrum
emmampu kaṭiviṭutu numāṇ cērimiṉeṉ
aṟattāṟu nuvalum pūṭkai maṟam.[2]

During Sangam age there was no seperate work that confined to preach the value of virtue. In the course of time due to the advent of different races in Tamil and the virtuous life of the Tamils were badly affected. At this juncture works stressing the importance of the virtues appeared. They attempted to mould the characters of the Tamils and to enable them to lead a virtuous life. This paper attempts to deal with the thoughts on Education as revealed in those works.

Education

The education sprouts from the ruin of ignorance. The etymological meaning for the word 'Kalvi' (Education) is to mould and cultivate the mind properly. The aim of education is to help the manifestation of energy hidden in one's mind. Gandhiji used to say that education should develop devotion and character.

In the contemporary life education plays a vital role. The present education system is different from that of the ancient one. Education is at present forms a part of one's life. Today it is essential to earn bread and to raise the standards of life. Education offers both of these.

Beauty of Education

The Tamil didactic works speak volumes of education. They declare that education is more beautiful than all the physical beauties. The education gives knowledge. It is the jewel to life. This jewel is greater than the other ornaments like dress, golden jewels etc. The physique will not give true beauty to one but the education alone will give beauty to one.

Following verses testify to the same :

> iṭai vaṉappum tōḷvāṉppum īṭin vaṉappum
> naṭai vanappum nāṇinvaṉappum - puṭaicāl
> Kaḷuttiṉ vanappum vanappalla eṇṇōra
> eḷuttin vanappē vanappu.[3]

> kūnci yalakum koṭuntāṉaik kōṭṭaḷakum
> mancaḷ aḷakum aḷakalla nencattu
> nallam yām eṉṉum natuvu nilaimaiyāl
> kalvi yaḷakē aḷaku.[4]

> nuṇmāṇ nuḷaipulam illāṉ eḷilnalam
> maṇmaṇ punaipāvai yaṟṟu.[5]

Tirikaṭukam points out that the education will give eternity to one.

.... naṉṉum
marumaik kaṇinalaṉ kalvi. [6]

Gold, money, jewels, clothes for which we strive will associate with us only in this birth but the knowledge gained through education will help us in future births also.

Thirukkuṟaḷ brings out this fact thus:

orumaikkaṇ tāṉkaṟṟa kalvi oruvaṟku
eḻumaiyum ēmāp puṭaittu. [7]

The Greatness of Education

Among the didactic works in Tamil, Tirukkuṟaḷ. Nalaṭiyār Tirikaṭukam, Ēlāti, Cirupañcamūlam, Mutumoḻik Kāñci, Paḻamoḻi naṉūṟu, Nāṉmaṇikkaṭikai, Iṉṉa nārpatu, Iṉiyavai nārpatu, Nītineṟiviḷakkam, Cataka works, Naṉneri, Aṟanericcāram, Ātticūṭi and Auvaiyar's works speak on the greatness of education.

Kumarakuruparar personifies the education as a chaste wife of one and the poems produced owing to education as children.

He also points out that education is as important as to marital life to one:

Kalviyē kaṟpuṭaip peṇṭir peṇṭirkkuc
celvap putalvaṉe tīṅkavi. [8]

Like a mahout regulates an elephant, education regulates the life of the man. The following lines from Manimekalai and Cilappatikaram respectively personify the education as mahout.

Kalvip pākarir kāppuvalai yōṭṭi. [9]
iṭaṅkaḻi neñcattu iḷamai yāṉai
kalvip pākaṉ kaiyakap pataatu
ōṅkā uḷḷat tōṭu māyiṉum. [10]

Nānmanikkaṭikai personifies the education as lamp.

maṉaikku viḷakka maṭavār matavār
tamakkuṭ bakaicāl putalvar - maṉakkiṉiya
kātaṟ putalvarkkum kalviyē kalvikkum
ōtiṟ pukaḷcā lūṇarvu. [11]

Nalaṭiyar also falls in line with Naṉmaṇikkaṭikai.

immai payakkumāl īyak kuraivinṟāl
tammai vīḷakkumal tāmuḷarāk kēṭiṉṟal
emmai ulakattum yāmkāṇēm kalvipōl
mammar aṟukkum maruntu.

Whereever the educated persons go they will be received with great honour; all men are their kinsmen; every country is their country that is why Tirukkuṟaḷ runs thus:

yātāṉum nāṭāmāl ūrāmāl eṉṉoruvaṉ
cāntuṇaiyum kallata vāru. [13]

Cirupañcamūlam compares the educated persons to Devas and the uneducated with the Naragas.

tēvarē kaṟṟavar kallātār tēruṅkāl
pūtarē[14].

For the educated, their education will feed them Paḷamoinānūru brings out this point thus:

ārravum karrar arivutaiyār aktuṭaiyār
nāṟṟicaiyum cellatā nāṭillai annāṭu
vēṟṟuna tākā, tamavēyām āyiṉal
ārruṇa vēṇṭuva til[15].

Auvaiyar points out that the educated person will be treated properly whereever they go:

maṉṉaṉum mācaṟak karrōṉun cīrtūkkiṉ
maṉṉaṉiri karrōṉ cirapputaiyaṉ maṉṉarkkut
taṉitēca mallār cirappillai karrōrkkuc
ceṉravita mellañ cirrappu.[16]

Illiteracy

The Tamil didactic work not only praise the greatness of education but also lay stress on the ignominy of the illiteracy. Tiruvalluvar compares the uneducated with animals; he also points out they are not the eyes on the faces but the wounds. Though the uneducated possess knowledge naturally that will not be considered by great men. The following verses testify to this:

kallatāṉ ñṭpam iḻiya narāyiṉum
koḷḷār arivuṭai yōr.[17]

kallātan kaṇṭa kaḻinuṭam kaṟṟārmun
colluṅkāl cōrru paṭum.[18]

kallātāṉ tāṉkāṇum nuṭpamum
nallākaḷ kēṭpiṉ nakai.[19]

kallār uraikkum karumap poruḷ iṉṉā.[20]

First of all an uneducated becomes foe of himself. Though he is rich, he cannot enjoy it. The poverty of the educated is better than the wealth of the uneducated. Hence the following Tirukkuṟaḷ:

nallārkaṭ paṭṭa varumaiyin iṉṉātē
kallarkaṭ paṭṭa tiru.[21]

The association with the uneducated will give room for sin, slander, enmity, ruin, fear and the like which will follow one, not only in the present birth but also in the future; their words will bring miseries;

kallā oruvarkkut tamvāyiṉ corkūrram[22]

The educated can overcome any difficulty in the course of their life where as the uneducated cannot;

karrāṉ taḷarin eḻuntirukkum kallāta
pētaiyāṉ vīḻvānēr kāl muriyum.[23]

Education in the childhood

Tamil didactic works emphasize the childhood education. Learning in the childhood is like the carving in the stone. Therefore Paḻamoḻinānūṟu impresses us upon the need for childhood education thus:

> āṟṟum iḷamaikkaṇ kaṟkalaṉ mūppiṉkaṇ
> pōṟṟum eṉavum puṇarumō? āṟṟac
> curampōkki ulkukoṇṭār illaiyē illai
> maram pokkik kūlikoṇ ṭār.[24]

Nāṉmaṇikkaṭikai points out that the non-education during childhood is a sin.

> iḷamaip paruvattu kallamai kuṟṟam.[25]

Auvaiyar points out that the sun who does not learn in the childhood will be a troubling saturn to his father.

Branches of Education

Today there are many branches in education whereas they were not many in the ancient period. From Tirukkuṟaḷ one can understood that there were two branches of education Eṇ (Mathematics), Eḻuttu Grammar and Literature).

> eṇṇeṉpa ēṉai eḻutteṉpa ivviraṇṭum
> kaṇṇeṉpa vāḻum uyirkku.[26]

Koṉṟaivēntaṉ says that Eṇ and Eḻuttu are the two eyes of man.

> eṇṇum eḻuttum kaṇṇeṉt takum[27]

The education in the ancient period meant the mastery of Eṇ and Eḻuttu. This is evident from the following lines.

> kaṇṇuṅkār kaṇṇum kaṇitam eḻuttu.[28]
> .... eṇṇoṭu
> eḻuttiṉ vaṉppē vaṉappu.[29]

eṇṇum eḻuttum kuriyum aṟipavar[30]
aṇṇalum nulum poruḷum nikaḻvum ivai eṉlum
eṇṇiṉum ēṉai eḻnttiṉum mikkāy iruntaver[31]
eṇṇeḻuttu ikaḻēl[32]

Education through listening

Education can be obtained through listening. Knowledge becomes enlightened through education. In ancient period education was taught orally. Listening is also an aspect of education.

kēlviyum kalvi ākum[33]

Tiruvaḷḷuvar has devoted one chapter for listenings. Following verses stress the importance of listening.

kaṟṟilan āyiṉum kēṭka........[34]
kaṟṟalin kēṭṭalē naṉṟu.[35]
kaṟṟal kēṭtal uṭaiyār peryār.[36]
kallārē yayiṉum karraraic cērntoḻikiṉ
nallarivu naḷum talaippaṭuvar.[37]

Caste-No bar

The educated persons will be celbrated by all irrespective of age, race, caste, language, country etc.

.... orukuṭiyiṟ
kallāṭu mūttāṉik kaiviṭuk kaṟṟāṉ
iḷamai pāraṭṭum ulaku.[38]

orukuṭip piṟanta pallō ruḷḷum
mūttōn varuka eṉṉā tavaruḷ
aṟivuṭai yāṇā ṟaracuṉ cellum[39]

kaṭainilattōr āyiṉum kaṟṟarin tōrait
talainilattu vaikkap paṭum.[40]

vērrumai terinta nāṟpā luḷḷuṅ
kīḻppāl oruvaṉ karpiṉ

mēṟpāl oruvaṉum avaṉkaṭ paṭumē. [41]

ākkum aṟivāṉ alatu piṟappiṉāṉ
mīkkoḷ uyarviḻivu vēṇṭarka nīkku
pavarār araviṉ varumaṇikan ṭeṉṟum
kavarār kaṭalin kaṭu. [42]

tōṇi yiyakkuvaṉ tollai varuṇattuk
kāṇiṟ kaṭaippaṭṭāṉ eṉṟikaḷār kāṇār
avaṉ tuṇaiya ārupō yarrēnūl kaṟṟa
makaṉ tuṇaiya nalla koḷal. [43]

Education at all costs :

Begging is a cruel sin :

aviṟku nīreṉṟu irappinum nāviṟku
iraviṉ iḻivantatu il. [44]

but it is essential to learn even by means of begging.

aṉṉa iyivaṉōr iḷamā ṇākkan
taṉṉūr maṉṟattu eṉṉan kollō
irantum nirampā mēṉiyoṭu
virunti nūrum peruñcem malaṉe. [45]

piccai pukkāyiṉum kaṟṟal mikaviṉitē[46]

Kaṟkai naṉṟē kaṟkai naṉṟe
piccai puhiṉum kaṟkai naṉṟu.[47]

ūpoṭu kūṟai yeḻuttāṇi puttakam
pēṇoṭu mēṇṇum eḻttivai maṇoṭu
kēṭṭeḻti yōtvāḻvārkku īyntar immaiyāṉ
vēṭṭeḻta vāḻvār virintu.[48]

Teachers and Students

The *gurukula* method of education was in vogue during ancient days. The students under this system stayed with the teacher until a particular age and learnt from them. In those days teachers were respected highly. Trikaṭukam says that a twon without the ṭeacher is useless.

Kaṇakkāyar illata ūram......
naṉmai payattal ila.[49]

Teachers were considered equal to God.

Eḻuttarivittavan iṟaivaṉ akum says vētrivetkai[50]

Tamil didactic works welcomed the gurukula system of education. Kumarēca catakam points out that education without the teacher is of no use.[51] Ulaka nīti stressess that no due or delay should be there for paying the fees of the teacher.[52]

Naṉṉul defines the qualities of a good teacher thus:

kulaṉaruḷ teyvam koḷkai mēṉmai
kalaipayil teḷiva kaṭurai vaṉmai
nilamalai niṟaikōl malarnikar maṭci
ulakiyal aṟirō tuyarkuṇam inaiyavum
amaipavan nulurai yāciri yaṉṉē.[53]

similarly Cirupancamūlam and aṟanericcāram describes the qualities of a good teacher.

āṇākkam vēṇṭātāṉ ācāṉ.[54]

aṟaṅkēṭ ṭaruḷpurin taimpulaṉkalmāṭṭum
iṟaṅkā tirucār poruḷum tuṟantaṭaṅki
maṉṉuyirkku uyntupōm vāyil uraippaṉēl
paṉṉutaṟkup pāṟpaṭ ṭavaṉ.[55]

Naṉṉul classifies the students into three categories top, middle and low and compares them respectively to swan and cow, field and parrot and goat and buffalo.

aṉṉam āvē maṇṇōṭu kiḷiye
illik kuṭamoṭu erumai neyyuri
eṉṉal talaiyiṭai haṭaimā ṇākkār.[56]

Cirupancamūlam, Mutumoḻikkañci, Ācārak kōvai, Aṟappaḷiccura çatakam speak the qualities of good students,

māṉakkan aṉpāl vaḻipaṭuvāṉ.[57]

niṉṟakkāl niṟka aṭakkattal eṉṟum
iruntakkāl ēvāmai yēkār peruntakkar
collir cevikoṭuttu kēṭṭika miṭṭum
viṉāvarka colloḷntk kāl.[58]

āṇakkam vēṇṭātāṉ ācāṉ avaṟhiyainta
māṇakkaṉ aṉpāṉ vaḻipaṭuvāṉ māṇakkaṉ
kaṟpaṉaittu nūṉṟum kaṭintaṉ kaṭiyātāṉ
niṟpaṉaittum nenciṟkōr nōyi.[59]

kaṟṟal vēṇṭuvōṉ vaḻipāṭu taṉṭāṉ.[60]

uṟṟuḻi utaviyum uṟuporuḷ koṭuttum
piṟṟai nilai muṉiyātu kaṟṟal naṉṟē.[61]

nērāmal kaṟṟatu kalvi aṉṟu.[62]

tanmakaṅ ācaṉ makaṉē maṉmakaṉ
poruḷnaṉi koṭuppōṉ vaḻipaṭu vōṉē
uraikō ḷāḷaṟ kuraippatu nūlē.[63]

Uses of Education

The chief aim of education is to develop culture. Tiruvaḷḷuvar says that even after learning if one is uncultured he is a tree[64] and he adds that there is no use in education if the educated do not worship the holy feet of God.[65]

To be pure and to abide by the learned works are the uses of education.[66] Learning alone will not do, he should abide by the laws that the education preaches.

ōti uṇarntum piṟarkkuraittum tāṉaṭaṅkāp
pētaiyiṉ petaiyār il.[67]

aṟiñarkku aḻku kaṟṟuṇarntu aṭaṅkal.[68]

pakaiyakattup pētikai oḷvāḷ avaiyattu
añcum avaṉkaṟṟa nūl.[69]

pallavai kaṟṟum payamilarā nallavaiyuḷ
naṉku celac collā bā[70]

nallavaiyuḷ mēmpaṭṭa kalvi.[71]

kaḷaṟum avaiyaṉcāṉ kālvi yiṉitē.[72]

avaiyanci meyvitirppar kalviyum
pūttaliar pūvamai nanṟu.[73]

āstāṉakōḷai palaaṅya nūl ētiyeṉṉā.[74]

Learn Further and Further

Tamil didactic works personifies education as wealth. The education process does not stop at any point. It is a continuous one. Kumarakuruparar stresses this point thus:

tammiṉ meliyarai nōkkit tamatuṭaimai
amma paritēṉ ṟakamakiḻka tammiṉum
kaṟṟarai nokkik karuttaḻika kaṟṟatellam
eṟṟē yivarkku nam eñru.[75]

One should not be proud of their education. Education is boundless, life is short therefore one should go on learning and thereby accumilating wealth.

palakṟṟōm yāmenru taṟpukaḻa vēṇṭā
ala katir ñayiṟṟaik kaikkuṭaiyum kākkum
cilakaṟṟar kaṇṇum ulayām palakaṟṟarkku
accani aṉṉatōr cōl.[76]

Conclusion

Thus Tamil didactic works throw light on various aspects of education.

Footnotes

1. Pā. Turaikkaṇṇumudaliyār, *Kalvikkalai*, p. 18.
2. Puṟanāṉuru, 9.
3. Ēlāti, 74.
4. Nalaṭyār 1.
5. Tirukkuṟal, 407.
6. Tirikaṭukam, 52.
7. Tirukkuṟaḷ, 398.
8. Nītineṟiviḷakkam, 4.
9. Manimēkalai, 18 : 165.
10. Cilapatikaram, 23 : 37-9.
11. Nāṉnmaṇikkadikai, 103.
12. Nalaṭiyār 2.
13. Tirukkuṟaḷ, 397.
14. Cirupancamūlam, 20.
15. Paḷamoḻinaṉūra, 4.
16. Auvaiyār, Mūturai, 26.
17. Tirukkuṟaḷ, 404.
18. Paḷamoḻi naṉūru, 12.
19. Ciṟupancamūlam, 5.
20. Iṉṉānāṟpatu, 16.
21. Tirukkuraḷ, 408.
22. Nāṉmaṇikkatikai, 84.
23. Ibid. 74.
24. Paḷamoḻi naṉūru, 1.
25. Nāṉmaṇikkatikai, 93.
26. Tirukkuṟaḷ, 392.
27. Koṉṟai Vēntaṉ, 7.
28. Cirupancamūlam, 93.
29. Ēlāti, 74.
30. Tirunavukkaracar Tēvāram, Tiruvēṭikuṭi Tiruppatikam, 6.
31. Nīlakēci. 679.
32. Ātticūṭi 7.
33. Tivākaram, p. 230.
34. Tirukkuṟaḷ, 416.
35. Paḷamoḻi naṉūru, 5.
36. Tirunāṉcampantar Tēvāram, Tiruppirampura patikam, 2.
37. Nalaṭiyār, 9.
33. Nāṉmaṇikkaṭikai, 65.

39. Puṛanāṉuru, 183.
40. Nalaṭiyār, 3.
41. Puṛanāṉuru, 183.
42. Naṉneṛi, 22.
43. Nalaṭiyār, 136.
44. Tirukkuṛaḷ, 1066.
45. Kuṛuntokai, 296.
46. Iṉiyavai nāṛpatu, 2.
47. Veṛṭi vēṛkai, 18:3.
48. Ēlāti, 63.
49. Tirikaṭukam, 10.
50. Verti vērkati, 2.
51. Cumarēca Catakam, 21.
52. Ulakanīti, 6.
53. Naṉṉūl, Potuppāyiram, 26.
54. Cirupancamūlam, 29.
55. Aṛaneṛiccāram, 4.
56. Naṉṉūl, Potuppāyiram, 38.
57. Cirupancamūlam, 29.
58. Ācārakkōvai, 74.
59. Cirupancamūlam, 29.
60. Mutumoḻikkānci, 10:3.
61. Puṛanāṉuru, 183.
62. Mutumoḻikkāñci, 5:6.
63. Naṉṉūl. Potuppāyiram, 37.
64. Tirukkuṛaḷ, 997.
65. Ibid, 2.
66. Ibid, 391.
67. Ibid, 834.
68. Vetrivēṛkai, 14.
69. Tirukkuṛaḷ, 727.
70. Ibid, 728.
71. Tirikaṭukam, 8.
72. Iṉiyavai nāṛpatu, 12.
73. Nītineṛiviḷakkam, 6.
74. Cumarēca Caṭakam, 27.
75. Nītineṛiviḷakam, 15.
76. Aṛaneṛiccāram, 79.

Ideas of Education in the Songs of Tayumanavar

Dr. Pon. SOURI RAJAN

" On the basis of Tayumanavar's songs, the usefulness of learing language and subjects learned through languages, aims of learning, religious education, emotions and actions that kill the human rationality, certain methods of teaching are discussed in this paper."

In those days, there were Tamil scholars and Sanskrit scholars.[1] We are able to know that scholars who are fluent in both the languages lived in those days.[2] Eventhough the great sage Tayumanavar lived in the regime of Nayakkar, we cannot find any language teaching based on Telugu. Education through Tamil was found in more places than through the Sanskrit language. Tamil language has been taught as the people's language[3] for the worship of God,[4] and for the teaching of aesthetic abilities through the arts.[5] It was an important phenomenon in that period.

People learned grammar[6], literature[7] and philosophy.[8] In addition they learned manual labour.[9] we are able to trace the history of the study of art.[10] There is a clear notion that not only the knowledge of literature and grammar, but also a sense of worship is essential for writing poetry." Songs should be sung in accordance with the tunes.[12] These are the traditions of the Tamils in the days of Tayumanavar.

Education does not stop with the learning of words and understanding the meaning of words[13]. One should abide by one's learning. What has been learnt, should be practised in life.[14] Those who do not practise their learning are no better than those who do not learn anything.[15] To make

others happy in their discomfort is the main use of education.[16] Blabbering of words and hiding the truth is not education.[17] It is only a jugglery.[18] One should read books which lead to a proper life. Education should make people understand, that they should treat others without any bias and without discrimination.[19] The qualities like, benevolence, morality, charity and truthfulness were expected from a learned person in those days.[20]

As already mentioned, there are some worldly benefits from education. But it is not the main aim of education.[21] It goes beyond the worldly benefits and leads to the worship of God. Knowing, understanding and reaching God is the main aim of education.[22]

Education based on religion is insisted upon in those days. Knowing about God and His Grace is considered as an essentia part of education.[23] Those who do not understand the presence of the Almighty are considered poor men in the field of education. We know that there were schools of Vedas and Tevarams in the Chola period. It must have continued in the days of Tayumanavar. Verses from the Vedas and Tevarams were learned in tune with the traditional music.[24]

Desire, egoism and sex habits spoil the minds of the learners. When the mind has desire, knowledge that is gathered through learning and listening withers away like the cotton in a heavy storm.[25] Egoistic knowledge is improper knowledge. It makes one dwindle like a ship in a storm.[26] Knowledge gathered through learning, the moral behaviour and the practised labour are entirely spoiled by sexual desire.[27]

Houses and schools of learning were not many in those days. Today education is given to all. This was not found in the days of Tayumanavar. People have to go to many far off places to learn and learn through many attempts.[28]

Tayumanavar adopted many methods or techniques to make known the grace of God to the people. We can call

them teaching methods. we can classify them into four types.

They are as follows,

1) Certain ideas are repeated in a particular place or sung at the end of the song as a single phrase.

2) By posing questions to the audience keep them alert and attract their attention.

3) Similes are used to implant the ideas in the minds of the learners.

4) Accustomed proverbs are used to make clear the ideas about God.

Phrases like, 'Parkkum Idam Enkum oru Nikkamara Niraikinra Paripuranananthame,'[29] 'Siragiri Vilankavaru Dhakshina Moorthiye,'[30] 'Cinmayanantha Guruve', come at the end of the songs to make us remember the ideas.[31]

The next technique is the posing of questions to the audience or learners. The questions will keep the learners alert and it paves way for the full participation of the learners. But in the end, the teacher will make the people understand the essential idea laid down.[32]

Many of his songs try to implant the ideas through the repetition of similes.[33]

'Ulannkai Nellikani', and 'Kaitha Maratirkke Kalladi,'[34] and similar proverbs speak of God and His Grace.

Conclusion

Even though there was an opportunity for the people to learn through Sanskrit and Tamil, Tamil, served as the medium of instruction. Literature, Grammar, Vedas and the Industrial trainning had been taught as the essential part of education. Giving alms and Morality form the basis of education which gives the worldly benefits and attainig bliss with God as the

benefits of the other world after death. Religious education was given a prominent place. Hymns like Vedas and Tevarams were sung with tunes or music. Desire, Egoism and Sex were termed as setbacks in acquiring proper knowledge. Knowledge was gathered by hard search and by many attempts. Teaching hadbeen done on the basis of memorisation, concentration and by clearly defining the basic ideas. These ideas of education are revealed in a study of Saint Tayumanavar of the 17th Century A.D.

Footnote

	பாட்டு எண்.	அடி	
1.	66	3	வல்லதமிழ் அறிஞர்
2.	66	2	வடமொழியிலே வல்லான்
3.	64	2	ஈட்டு தமிழ் என்தமிழ்
4.	263	3	வண்ட மிழ்க்கிசை வாக மதிக்கவே
	64	1	....................அடியெடுத்துக் கடவுளர்கள் தந்தது......
5.	105	2	முத்தமிழ் முழக்கம்
6.	821		கருவி நன்னூல் போதம்
7.	822		கலை ஞானம்
8.	823		வாசக ஞானம்
	666		கூர்த்த அறிவு
9.	457		.......கறங்கெனவே சுற்றுந்த தொழில்கற்று
10.	443		ஆயும், கலை
11.	102		பாகத்தி னாற்கவிதை பாடிப் படிக்கவே பக்திநெறி இல்லை
12.	102		.........மூவர்செய் பனுவலது பகரவோ இசையும் இல்லை

13.	187	3	சொல்லாலே பயனில்லை.
	200	1	சொல்லை உன்னித் துடித்தல்லால்
	229	2	சொற்ற சொற்கள் சுகாரம்ப மோ
	631	1	சொல்லிற் பதர்களைந்து சொல்முடிவு காண்
14.	229	2,3	.... நெறி நிற்றல் வேண்டும்
15.	66	1	கல்லாத பேர்களே நல்லவர்கள்! நல்லவர்கள்!!
16.	67	2	கொடிய பாழ்ங் கல்லாமை எத்தனை
17.	66	4	வெல்லாமல் எவரையும் மருட்டிவிட கைவந்த வித்தை
18.	187		.........நேயஅருள் மெய்யன்றே; நிலயமதா நிற்கக் கல்லாத ஏன் படித்தாய்
19.	50	3	நட்டனைய தாக்கற்ற கல்வி
20.	75	1,2,3	எத்தனை விதங்கள்தான் கற்கினும் கேட்கினும்என் இதயமும் ஒடுங்கவில்லை.
21.	63	3	இற்றைநாள் கற்றதுங் கேட்டதும் போக்கிலே போகவிட்டு
	104	2	ஆடித் திரிந்துநான் கற்றதும் கேட்டதும் அவலமாய்ப் போதவ் நன்றோ
	229		கற்றும் என்பலன்? கற்றிடும் நூன்முறை சொற்ற சொற்கள் சுகாரம்ப மோ?
	535	2	அறிந்த அறிவெல்லாம் அறிவன்றி யில்லை
	683		பாடிப் படித்துலகில் பாராட்டி நிற்பதோ?
	920		கற்றாலும் கேட்டாலும் ..... இன்பம் உண்டோ?
22.	239	4	களிபொ ருந்தஅன் றோகற்ற கல்வியே
	309	4	கற்றதும் கேள்வி கேட்டதும் நின்னைக் கண்டிடற் பொருட்டன்றோ.
	666		கூர்த்தஅறி வத்தனையுங் கொள்ளை கொடுத் துன்னருளைப் பார்த்தவன் நான்.
	931		சொல்லிற் பதர்களைத்து சொன்முடிவு, காணாதார் நெல்லிற் பதராய் நிற்பார்.
23.	42		கல்லாத அறிவும் மேற்கேளாத கேள்வியும்

24.	102	1	...................வேத பராய ணப்பனுவல் மூவர்செய் பனுவலது பகரவோ இசையும்இல்லை.
25.	322		ஆசையெனும்
26.	171		நானென நிற்கும் ஞானம் ஞானமன் றந்த ஞானம் மோனமா இருக்க வொட்டா
27.	45	7	கற்றும் பலபல கேள்விகள் கேட்டும், கறங்கெனவே சுற்றுந் தொழில்கற்றுச் சிற்றின்பத் தாடு சுழலின் என்னாம்
28.	182	1,2,	.........பன் னாள் உலகத் தோடி ஆடிக் கற்றதும் கேட்டதும்
	1	4	ஆடித் திரிந்துநான் கற்றதும் கேட்டதும்
29.		4	முதல் 13 வரை அமைந்துள்ள பாடல்கள்
30.		26	முதல் 36 வரை அமைந்துள்ள பாடல்கள்
31.			'பரிபூரணானந்தம்' தொடங்கி 'சிற்சுகோதய விலாசம்' முடிய அமைந்துள்ள பதிகங்கள்
32.		1	
33.		12	
34.		27	79, 83, 89, 92, 94, 100, 105, 106, 107, 139, 148, 160, 180, 188, 233, 563, 566, 835, 881, 984, 1146, 1149, 1156, 1151, 1156.

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Growth and development of Arts and Crafts of the Tamils

S. VAITHILINGAM

"In ancient days the training in most of the arts and crafts was given to the trainees under Gurukula system. In the Gurukulavasam the trainees or students were expected to live with their teacher so that they could learn the real skill and technicalities of the concerned art or craft."

It is a known fact that arts and crafts are the yard-stick to measure the prosperity and greatness of a country. As regards Tamilnadu the fine arts and crafts are the precious gems adorning the crown of Tamil culture and civilisation. It is my humble attempt to describe and evaluate the growth and development of arts and crafts of the Tamils in this brief article.

Definition, and significance of arts and crafts

Art is defined in various ways by different artcritics. 'Art is a subtle, attractive and powerful tool in the hands of society for shaping and regulating human relatians and life-goals, says Radhakamal Mukherjee. 'Fine art is that in which the hand, the head and the heart go together' says Ruskin. However art is an inevitable necessity for the refinement of the human relationship and welfare of the society: it will be perfect and great only if it is to promote a healthy mental attitude and well being of the people. It should be noted here that the basic idea on art is the unity of Man, Nature and God.

As regards the aesthetic experience it is a fine experience of intellectual joy accompanied by emotion.

Arts like painting, sculpture, architecture, dance, and drama can be brought under the category of 'Fine arts'.

Crude arts or worldly useful arts can be identified with the term 'crafts'. The range of crafts is very wide. The jeweller, the silversmith, the blacksmith and other metal workers, the carpenter, the weaver, the dyer, the potter, the stone-cutter, the mat-maker, the coir maker etc., turn out many articles of utility combined with beauty. They can be called as craftsmen. Though in a strict sense, agriculture is not a craft it has been developed into a sort of art in the Tamil nadu. Though it forms a basis for the emergence of many handi-crafts such as weaving, basket-making, sugar manufacture etc., we are not considering it here.

The sharp distinction now drawn between the arts and crafts was never considered to be of such importance as to exalt the former to the degradation of the latter. Even a poor home in the Tamilnadu was not devoid of the delight in shapes and colours. In short it may be said that Tamilnadu is consitently, comprehensively and constantly a research centre-like place for artistic religious, spiritual and cultural investigations and experiments.

It is to be noted here that we have to devote our attention only on classical arts, and not on folk-arts in this brief article.

Fine arts

Painting

It is one of the attractive visual arts in the category of fine arts. It is an age-old art of the world. The Tamil equivalents for the word 'painting' are 'ōvu' (ஓவு), 'ōvam' (ஓவம்) 'ōviyam' (ஓவியம்), 'eḻuttu' (எழுத்து), 'vattikai-c-ceiti' (வட்டிகைச் செய்தி) etc. Cittiram (சித்திரம்) is a sanskrit word having its meaning 'wonder'. One can understand the full purport of the word 'cittiram' when one reads the commentary of Naccinārkkiniyar on the word 'கண்ணுள் வினைஞர்' in Maturaikkāñci. Expert

painters were expected to give life-like form (உயிரோட்டம்) to their paintings even during the Cankam period.

As regards the origin of painting the cave-painting of pre-historic period found by the Archaelogical department in Tamilnadu and elsewhere may be illustrated in point ; as regards the drawing, there are references to pāvai eḻututal (பாவை எழுதுதல்) in Paripāṭal and Puranāṉūru etc. As an illustration,

'மாதர் மடநல்லாய் மணலின் எழுதிய
பாவை சிதைந்த தெனவெழ வொருசார்' (பரிபாடல். 7: 25-26)

may be noted. From this it is evident that the pictures drawn on sand (river-bank) by innocent young girls were erased by the flood-waters of the river Vaiyai, and consequently they were weeping over the incident.

During the Cankam period ladies used the coloured pastes like sandal paste and kunkumam (Suffron flower) paste as fragrant vanishing creams to beautify their faces, shoulders and breasts. Patterns of flowered creepers and sugar canes were drawn with there pastes on different limbs of the ladies by themselves or by their lovers. These drawings were mentioned as 'toyyil eḻututal (தொய்யில் எழுதுதல்) in the Cankam works This kind of art has influenced the free hand method of drawing in those times and in later period.

Technical features, and Kinds of painting

As the painters try their best to give mainfestation to some indefinable aesthetic urge of their hearts, they cannot feel contented until and unless their external drawings and paintings agree with the mental picture, they imagine. "Sanskrit texts on sculpture and painting emphasise the necessity of inner visualisation and the perception of the hidden meaning of things. The vision which enables the artist so to visualize reality is a supreme form of concentration" says Dr. C. P. Ramaswamy Iyer (India and the World of Art - p. 5). Whilst the outline drawing or 'punaiyā ōviyam' (புனையா ஓவியம்) refers to the artistic lines and curves, the painting refers not only to resemblance-like lines and curves but to the finished painting including portrait in colours.

The desire for drawing and painting has been felt necessary and irresistible in the daily life of the Tamils in one way or other from very early days. The people enjoyed Nature and took great delight in recording their aesthetic experience in the form of painting. In the art of painting the sense of comparison and resemblance of things is the basis for the full effect of representation. The Tamils painted not only the animate and inanimate objects of the world but also the celestial beings as imagined by them according to tradition. In Paripātal 19, the Poet Nappaṇṇa nār desribes the paintings of 'Eḷuthu nilai maṇṭapam at Tirupparaṅkunram were highly attractive to the spectators. In that manṭapam there were paintings also of the celestial beings such a Irati Kāman, Intiram etc., so graphically represented as to make the, spectators imagine and see the puranic stories almost enacted before them. This picture can be seen through the following lines of Paripāṭal.

இரதி காமன் இவன் இவன்எனாஅ
விரகியர் வினவ வினாவிறுப் போரும்
இந்திரன் பூசை இவளக லிகையிவன்
சென்ற கவுதமன் சினனுறக் கல்லுரு
ஒன்றிய படியிதென் றுரைசெய் வோரும்
இன்ன பலபல எடுத்துநிலை மண்டபம் (19 : 48-53)

The spacious halls, storeys, bedrooms of palaces with colourful frescoes were vividly portrayed by the Caṅkam poets. Colourful panitings upon the Stucco sculptures were given, and references to this kind of painting are available in the ancient Tamil works.

Fresco painting is a form of painting done on a wall or ceiling. This is otherwise called in Tamil 'சுவரோவியம்' (wall paniting). For this painting, the artist should first have a level surface of the wall. Then he should mix the necessary pigments in water and apply them direct on the wet line surface During the process of this painting, the artist should be aware of the fact of bright and dark colours, deep and light touches, so that he can make his art-creation more attractive to the spectators. This is the best method of fresco painting which

is called 'True fresco or fresco buono' according to the reference made by S. Paramasivam in the Tamil encyclopaedia.

Fresco secco (secco-tempera painting) or painting in line medium is well explained according to the same art-crtic S. Paramasivam in *Lalit-kala* as follows : "Group-2 (Fresco-secco) is a technique in which the ground plaster is a line plaster, a mixture of line and sand with a thin layer of fine line plaster over it; on which the paintings are executed in mineral colours without gum or glue adhesives mixed. This technique is called by Paramasivam as 'Fresco secco. There are references to this group of fresco technique in early Tamil Caṅkam works of about 200 B. C to 500 A. D" (A note on sculpture in Sangam age'-Bharati Jayanthi Souvenir, 63-Bharati Tamil Sangam, Calcutta. P. 43).

There were highly proficient painters in Madurai engaged in the creations of what they perceived or imagined; this is evident from the following lines :

'எவ்வகைச் செய்தியும் உவமங் காட்டி
நுண்ணிதின் உணர்ந்த நுழைந்த நோக்கிற்
கண்ணுள் வினைஞரும் பிறருங் கூடி (மதுரைக்காஞ்சி-515-518)

The celebrated patron of 59th stanza of Purananūru was called ' Panṭian Cittira māṭattu-t-tunciya Nanmāran. From this reference one can easily understand that there should have been a mansion or storeyed house so full of paintings as to be called 'cittira māṭam'. The fact that the paintings are the inevitable feature of māṭam (மாடம்) is well brought out by the phrase 'மாடக்குச் சித்திரமும்' in Nannūl, the familiar Tamil grammar of later period. It was considered that a māṭam without paintings is just like the sky without flowing water. It is believed that the art-galleries (சித்திர மாடங்கள்) were the attractive abodes of Kāmavel or Manmata (Cupid, the God of love).

There are references to stucco sculptures with colourful paintings in ancient Tamil works ; the following illustrations may be noted in this connection.

'வெள்ளி யன்ன விளங்கு சுதை உரீஇ'

(நெடுநல் வாடை.)

'வெண்சுதை விளக்கத்து வித்தகர் இயற்றிய
கண்கவர் ஓவியங் கண்டு நிற்குநரும்'

(மணிமேகலை, மலர்வனம்புக்ககாதை-130-131)

Even during the Caṅkam period there was a contact between the Tamils and the Western (Roman and Greek) people, and as a result a mingling stage in cultural contact was possible. In painting also their happened a linkage that paved the way for synthesis of painting techniques. Yavanas' method of painting is evident from the following reference of Mullai-p-pāṭṭu.

'வலிபுணர் யாக்கை வன்கண் யவனர்
புலித்தொடர் விட்ட புனைமாண் நல்லில்'(365)

The epic references of later-period to painting are general and do not help much to understand the techniques of the art.

Ancient paintings of Tamilnadu are not available to us because of the passage of tine and vagaries of Nature. However Tamil nadu is fortunate in having some rare paintings of the Pallavas, Pandyas and Cholas.

Paintings of Pallava period

It is a known fact that mural paintings found at the cave temple in Cittannavasal are the outstanding achievements of the Pandyas and they are dedicated to the Jains. Though the paintings were believed to be the art-treasures of the Pallava period, the recent research has shown that they are the monumental achievement of Pandyan Srimaran Srivallabha. There we see the five sculptures of Jaina. Thirthankaras besides exquisite paintings which stand as a tribute to the art-achievements of Pandyas in the field of paintings. It is believed that the paintings regarding Lotus tank, Jain monks etc. were drawn by master painters who had experience in the Ajanta tradition of painting.

The paintings found at the Talagirisvara temple at Panamalai of South Arcot Dist. are fine specimens of Pallava period.

Dr. R. Nagaswami says, " Built by the Pallava King Rajasimha, the temple follows the design of the Kailasanatha temple at Kanchipuram, and the shore temple of Mamallapuram, which were also built by the same ruler. The Talagirisvara temple is notable for its excellent painting depicting Parvathi as Bhavani The painting of dancing Siva in a small cell on the northern side of the main shrine, is almost completely damaged. On the inner face of the backwall, and on the northern wall of this cell, there are paintings in excellent style and colours, But a painting at the back wall has faded, and only the bare outlines are visible. This represents the dance of Siva in *talasamsphotita* pose a favourite theme of Rajasimha. This particular mode of dance is profusely carved in the Kailasanatha and shore temples" (Art and Culture of Tamil nadu, published by Sundeep Prakasam, Delhi-p. 120).

Art critics A. K. Gupta and V. Ramasubramaian contend "mural paintings exposed so for and are now being exposed in the Kailāsanātha Temple complex show that the entire complex was once fully decorated with exquisite colour schemes. With the passage of time, due to neglect and vagaries of nature many paintings have disintegrated and later on were covered up coating lime plaster, lime washes which were applied in large scale, probably as a protective measure, or to give a uniform outlook, by covering patchy remnants of paintings".

It is said that another piece of painting in a disappearing form was noticed in the Vaikunta perumal koil, Kanchipuram by the late C. Minakshi.

Paintings of the Chola Period

Though many paintings of the Chola period almost disappeared it is our good fortune that we have some freco paintings in the great temple of Thanjavur. The paintings found in the outer passage round the sanctum of the Brahadeesvara temple are very elaborate and attractive. The art-critic K. Sadasivam says : 'Extensive mural paintings of the

Chola period are found in the lower ambulatory over the rest of the inner wall, over the plasters and ceilings and also over the inner face of the outer wall, these are being overlaid by later paintings of the Nayaks. The most important paintings are the panel representing Siva as *Tripurāntaka* (setting out for his fight with the Tripura demons) the panel narrating the story of the Saiva Saint Sundaramurti Nayanar, and the panel representing the king worshipping at the shrine of Nataraja at Chidambaram, along with his queens and his retinue. The journey of Sundaramurti and Seraman Perumal Nayanar to Kailas at the request of Siva is very attractively painted."

Paintings of the Nayak Period

The Nayak kings of Madurai have done great service to the temple arts. Tirumalai Nayak and his descendants renewed many temples with additional structures which had paintings of religious and philosophic interest.

On the northern and eastern walls of the porra marai tank-corridor (பொற்றாமரைக் குளப்பிராகாரம்) at the great temple of Madurai, are painted beautiful pictures depicting the famous miracles or Tiruvilayadals of Lord Sundaresvarar. On the western side of the tank is the Rani Mangammal mandapam and on the northern end the *'Kiḷikkaṭṭu'* or parrot mandapam. The ceilings of both these mandapas contain beautiful and attractive paintings.

It is said that the colourful paintings at the temple of Sivakamiamman in Chidambaram depicting the scene of Pitcha-ṭanamurti in the midst of the wives of Tarukavana rishis were drawn during the period of Nayaks.

Other paintings

Maratta kings of Thanjavur encouraged the portrait paintings which are found in the palace of Thanjavur. Zamindars of many places were also interested in the portrait paintings.

Nagarattar (Nattukkottai Chettiars) and other wealthy people are encouraging the talented painters to draw fine pictures of

religious interest during the time of renovation of many temples' Influenced by different schools of painting the proficient painters of Modern period draw fine realistic pictures and portraits on the walls and ceiling of temple mandapas using modering techniques. Nowadays chemical colours are used for paintings.

Apart from the temple paintings, the painters of Modern times draw many kinds of pictures for the use of drama screens, advertisement or publicity banners, calendars and journals ect.,

Sculpture

Sculpture is considered one of the oldest and most wide spread fine arts of the world. It is a static and visual art which depends upon time and space. It is helpful to find out the development of culture in its stages. It is said that it may broadly be defined as the art of carving, modelling, welding or otherwise representing observed or imagined objects in solid materials and in three dimensions. Encyclopaedia Britanica clearly says that there are two general types, the statuary in which figures are shown in the round, and relief in which figures project from a ground. These two types may be identified as bas-relief and high-relief. In the high relief, all sides of the sculpture can be observed, where as in the former, the front and the side postures only can be seen.

Sculptural art in Tamilnadu goes back to the Caṅkam age. In Neṭunalvāṭai and Mullai-p-paṭṭu there are references to 'pavai vilakku' (பாவை விளக்கு), statue lamp i.e the oil lamp held in the hands of a lady-statue of artistic design. The statue might have been made out of bronze since the statue-lamps are generally made of bronze and placed in many temples even now. This lamp is identified as 'Deepa lakshmi' which is familiar in North India.

As regards temple arts sculpture is dealt along with architecture. There are references to the temples of Lord Muruga, Lord Tirumal and Indra etc. in the ancient Tamil works; from this it is clear that image-worship was in practice during the ancient period.

Sculptures of the Pallava Period

Bakti movement during the Pallava period turned out many master-pieces of sculpture. Sculptures of rock-cut temples or monolithic temples and bas-relief at Mamallapuram, and sculptures of cave temple at Kuṭumiyamalai are considered the art-products of master craftsmen. In the words of Percy Brown, "It is mind materialized in terms of rock, brick or stone." It is against this background that the Tamilian art of sculpture has to be studied.

The iconography deals with twenty five thematic representations (மூர்த்தி பேதங்கள்) of Lord Siva, and the sculptors concentrated upon these murtams according to the 'Dyana-mantram' mentioned in Agamas. Likewise there are ten thematic representations (அவதாரங்கள்) of Lord Tirumal; they are sculptured in the temples.

It is clear that the form of Somaskanda is popular in Pallava painting and sculpture, whereas the form of Nataraja dominates the Chola sculpture.

In the Saiva and Vaishnava temples of Kanchipuram there are fine specimens of sculpture of different categories.

Sculptures of the Pandya Period

Highly captivating monolithic ratha type of temple (with sculptural splendour) at Kalugumalai near Tirunelveli is a fine illustration for the artistic achievement of the Pandya rulers of Madurai. Every one of the sculptures at the Vettuvankoil at Kalugumalai is considered a master piece of delicate carving of artistic grace ; various aspects of Siva, Tirumal, the Dikpalas, divine damsels and dwarfish ganas dancing in ecstacy are the marvellous achievements of the Pandyas in the field of sculpture.

'The sculptures of Thirupparankunram cave constitute one of the major attempts of the Pandyas to unfold a sculptural gallery in a vertical plane very much like the rock-cut sculptures of Ellora ... At the top of the cliff is a row of large sculpture which are now under worship dedicated to Siva,

Vishnu, Subramanya, Durga and Ganesa. Then in the lower terrace we have a number of other sculptures in reliefs like those of Jeysta (சேட்டை-மூதேவி), Ganas, Dancing Nataraja, Bhuvarga, Narasimha killing Hiranya, Gajalakshmi. The assemblage is indeed striking and each and every one of the sculptures shows beauty of form, classical grace and charm says Dr. K. V. Raman ('Art and Architecture'-P.287).

The exquisite sculptures of Pandyan period are found in the lower rock-cut cave temple at Tiruchirapalli and in the cave temples at Kunrakkudi of Ramnad District. Fine scultures found in the temple of Kudal Alagar at Madurai, and Nellaiyappar temple at Tirunelveli are also to be noted in this connection. Similarly, marvellous sculptures of Tirumal and Alwars are found in places like Tirumogur, Sri Alvar Tirunagiri, Sri Vaikuntam, Vanamala etc.,

The substantial contribution of the Pandyas as to the art of sculpture can also be seen on the tall and stately gopurams in many places of Tamil nadu. Pandyas of Tenkasi also had contributed much in this line.

Sculptural achievements of the Cholas Vijayanagar Kings and Nayaks

Following the artistic techniques of sculptors of the Pallava and Pandyan periods the sculpturs of Chola period had contributed much in the field of art.

The Brihadeesvara or Peruvudayar temple or Rajaraja I is the greatest of all temples in its religious concept, architecture, and sculptural, iconographic and aesthetic content. Besides its architectural grandeur, the great temple contains fine sculpture groups.

The Brihadeesvara temple at Gangaikondacholapuram constructed by Rajendra I, is another magnificent temple of Chola architecture and art. "The sculptures here excel even those of Raja Raja in his Thanjavur temple. The most celebrated are

Chandēsānugraha group, Sarasvati, and Natesa, performing ānanda tāndava for the delectation of his great devotee Kāraik-kāl Ammaiyār. The temple at Kūzhampandal is another smaller but fine specimen of Rajendra's time "says K. R. Srinivasan in his article on 'Temple architecture and sculpture in Tamilnadu' ('Hand book' issued by the Exhibition committee-II world conference Seminar-1968).

The Airavatesvara temple at Darasuram, and the temple at Palayarai of the time of Rajaraja II, and the Kambaharesvara temple at Tirubhuvanam are also to be seen in connection with the artistic achievements of the Later Cholas. The stone and bronze sculptures of Sarabamurti found in Tirubhuvanam are fine specimens of sculptural tachnique based on religion.

During the period of Vijayanagar Kings and Madurai Nayaks there were many mandapas constructed with sculptured pillars as additions to the Temple complex. Tirumalainayak had served very much to beautify the great temple of Maduari. Art treasures of Thadikkompu (Madurai Dist.) are attributed to the Vijayanagar and Nayak rulers.

The Boovaraha temple at Srimushnam is outstanding from the point of view of religious as well as architectural history. The sixteen pillared mandapa found in the temple is celeborately planned and intricately carved from base to top; it is virtually a great achievement of Thanjavur Nayak dynasty in the field of arts. Famous sculptures of Krishnapuram temple (near Palayam-kottai) are attributed to the Nayak period.

A special note on the medical value of images

The Nataraja image made with an amalgam of five metals (Pañca lōka) found in the great temple of Chidambaram is believed to have miraculous curative properties for many incurable diseases. It is believed that the image of Dandayuthapany in the sanctum sanctorum of the Palani temple was made with an amalgam of Navapashanam, a compound of nine poisonous medicines under the guidance of one Siddha called Bogar; the sandal paste and pañcamirtam poured over the image are believed to acquire miraculous curative properties.

Sculptures of Modern period

Dasavatara Mandapam at Ariyalur is a fine hall infront of a temple; there are exquisite forms of ten avataras of Tirumal in the sculptured pillars. This mandapam is said to be a contribution of Zamindars of that locality. Likewise there are many temples all over Tamilnadu, with sculptural and architectural grandeur.

Apart from the temple sculpture, there are five specimens of sculpture of Moderntimes found in many places of Tamilnadu. It is very difficult to have in our purview all attractive products of stone sculpture, metal sculpture, wood sculpture ivory sculpture, stucco sculpture, gem sculpture etc., So it was possible only to have some glimpses of classical sculpture.

Architecture

In ancient days houses, choultries, palaces and temples were constructed in Tamilnadu according to the necessity and convenience of the persons. There are references to seven storeyed structures (எழுநிலை மாடங்கள்) in Cilappatikaram and other Tamil works. Palikkarai mandapam (பளிக்கறை மண்டபம்) i.e mandapam made of crystals mentioned in Manimekalai was in vogue during the post Cańkam period. All structures were built in consultation with the experienced people who had through knowledge in the science of building construction; the experts of the building art and sculpture were called Noolari pulavar (நூலறி புலவர்). The manuals of architecture such as silpa sastra, maya mata etc., contain exhaustive treatment of temples, viz., the kind of temple, the selection of the site, the time when a temple is to be built, the materials of which it should be made, the temple plan, laws of proporation, the nature of super structure, the image to be made for the temple.

In olden days the images might have been enshrined under selected trees. The 'sthala virukshas' (தல விருட்சங்கள்) or the sacred trees still maintained in the precincts of the temples are the proof of this fact.

During the Caṅkam period the buildings were constructed with perishable materials like wood, bricks, mortar and so all the palatial buildings and temples prior to the Pallavas could not be traced.

There were many types of temples, viz, Ilaṅkōvil, Alakkōvil, Manikkōvil, Karakkōvil, Kokutikkōvil, Gnalaṟkōvil as mentioned in Devaram. It is said that one Chola king Kocceṅkanān had built 70 temples of Madakkōvil type.

Early texts on silpa sastras recognise three styles of temple architecture — the Nagara, the Vesava and the Dravida. Most of the temples of Tamilnadu were built on the Dravidian style of temple architecture ; Dravida style, in which the vimanam was crowned by an octogonal or hexagonal sikhara above the neck.

Though there are many components of a temple as regards the architectural point of view, Vimana is considered as the nucleus of the temple; next comes 'garbhagraha' the shrine chamber enshrining a deity. It usually contains niches or *'devokoshtas'* with figures of appropriate deities.

In large temple complexes there may be *antarala, ārdha mandapa, maha mandapa, snapana mandapa, natana* or *Narttana mandapa, Vatya mandapa* etc.,

The separate Amman shrine was added to the Swami shrine of the temple during the Later Chola period.

Architecture of the Pandya period

The sphere of temple architecture was further enlarged by the Pandyas after the fall of Cholas. Both the Pallavas and Cholas concentrated their attention in the attractive execution of Vimana of a temple. "But during the period of Pandyas, the entrance gateways and the mandapas became the centre of architectural and sculptural activities. These gateways and mandapas were made as predominant parts of the temple" says L. Gajendran.

Sundarapandya gopuram was added to Jambukesvara temple at Tiruvanaika; the Sonthern Gopuram of Chidambaram temple was erected by the same Sundarapandya. The estern gopuram of the inner closure of Tiruvanna malai temple and the gopuram of Kumbesvarar temple at Kumbakonam are some of the Pandyan contributions to the development of Tamil architecture.

Architecture of the Pallava and Chola periods

" The rock-cut mandapas excavated during the time of Mahendravarman consisted of a rectangular pillared hall in front and the sanctum with single or more cells. The pillars and the entire scheme of the building explain that it is a lithic copy from the wooden structure. The same scheme of rockcut architecture was followed by Narasimha I and the improvement is to be noticed only on the decorative elements of the pillars and the development of facade with 'kūdus'. The most important contribution of Narasimha I is monolithic rathas of Mahabalipuram" says L. Ganjendra ('Art and Architecture,-p 348).

During the period of Rajasimha there were many improvements in the temple architecture. He introduced the construction of structural temples with dressed stones; the shore temple at Mahabalipuram and the Kailasanatha temple at Kanchipuram etc., can be illustrated in point.

On the line of Pallavas the Cholas developed the temple architecture to a great extent as to be called 'Great Temple builders of South India.'

As a stage of development in the evolution of temple it contains *antarala* (intermediate chamber) which became an important feature in all later temples.

The Kampaharesvara temple at Tirubhuvanam (constructed by Kulotunga III) has the Tanjore great temple as its prototype for is vimana, though the porch in front is in form of a chariot (drawn by elephants, not horses). The chariot shaped temples at Melakkadambur (Tirukkarakkōvil) and Suryanarkoil are important additions to the great heritage of Chola architecture.

During the period of Cholas there were many additions to the temple complex. It is said that Vikrama Chola was responsible to construct the hundred pillared hall; he erected the first prākāra wall known as 'Vikrama Chola Tirumalikai; also the second prākāra wall known as 'Kulottuṅka Malikai' was constructed by him as a mark of respect to his father. The shrine of Sivakami was erected and the Sivaganga tank was dug deep, and stone banks with leading steps were constructed by him.

It is generally said that Periapuranam compiled by Sekkilar might have been expounded during the period of kulottunka III, in thousand pillared hall. In support of this T. Satyamurti, author of 'The Nataraja temple' says, probably the work was started during the time of Kulottunga II and finished during the reign of Kulottunga III. However the contribution of thousand pillared hall can be attributed to both these kings.' But Fergusson and some art critics are of opinion that this hall could be attributed to the period of Nayaks (between **1595** to 1685 A.D.)

As in Chidambaram there were many structural addion made in many temples all over Tamilnadu.

Vijayanagar Kings and Nayak kings had contributed much for the elaboration and renovation of many temples. It is said that the Vijayanagar rulers followed the methods of Pandyas, to a certain extent by enlarging the existing temples with more and more concentric enclosure walls. Percy Brown says, 'In addition to the main temple in the middle, there are separate shrines, pillared halls, pavilions and other annexes, each having its special purpose and each occupying is appounded position in the scheme." It is to be noted that kalyanamandapa had become an important introduction in the Vijayanagar scheme of temple elaboration. The Kalyana mandapam at Vellore is a marvellous achievement of Vijayanagar rulers. During the period of Vijayanagar kings and Nayaks there was an important feature to be noted as regards the varieties of beautifully carved pillars in the mandapam.

It is said that the temples at Kanchipuram, Kumbakonam, Srirangam, Sucindram and Ramesvaram were enlarged by the enclosure walls and mandapas during the Vijayanagar rule.

The Nayaks of Madurai, Thanjavur, Gingee and Vellore ruled over Tamilnadu for about one and a half centuries. The covered courtyard and the corridors form the major part of the temple scheme of Nayaks. The next enlargement is the construction of huge walls which provide open courtyards all around the main temple. Some buildings were also built in the open courtyards.

Architecture of Modern Period

Efforts are being made by His Holiness Jeeyar Swamigal of Akobila madam to complete the gopuram of Srirangam which was left unfinished during the Nayak period ; the work is nearing complition. It is said that this gopuram will be the tallest in the Indian sub-continent.

It is a known fact that the modern structural techniques are employed in the construction of palatial buildings and skyscrapers of Tamilnadu.

Music

The Musical heritage

The Tamils the have unique distinction of having their language as *muttamiḻ* (முத்தமிழ்) ; it embodies traditional classification of *'Iyal'* (literary), *'Icai'* (music) and *'Naṭakam'* (drama). Music forms an important and central place in the language and life of the people.

The Tamils have always been conservative in their eight fold poetic sentiments or tastes (சுவை) and these are manifested by their music and musical instruments. Descriptions of vocal music and instrumental music are found in the caṅkam works.

As ancient treatises on Tamil music and musical instruments disappeared from the scene of Tamil life, and as no

inscriptions and sculptures on music of Cankam period are available at present, it is difficult to get full details and technicalities regarding this subtle art. However the Cankam works and modern treatises like *yaḻnūl* (Swami Vibhulananda) throw some light on music of Cankam period.

The commentaries of Arumpata uraikārar and Aṭiyarkkunallar on Cilappatikāram throw some more light on music of post Cankam period.

Tolkāppiyam refers to the five fold regions of Tamilnadu, viz' *mullai* (forest region), *marutam* (arable land), *neytal* (sea-shore) *Kuriñci* (mountainous region) and *pālai* (desert) and each of these regions was assigned a particular yāḻ (stringed instrument), paṟai (drum) and paṇ (musical mode of melody type).

Prof. S. Ramanathan says, 'Pan is the base on which the whole edifice of Tamil music is built. It is made up of the seven musical notes and attains its individuality on account of the eight karṇas ; eṭuttal, patuttal, nalital, Kuṭilam, Kampitam, oli, uruṭṭu, and takku' (Cultural, heritage of the Tamils-I.I.T.S: p. 59).

The musical instruments were meant mostly for individual use on the aspect of melody system and not like modern orchestra of harmony system.

Generally the musical instruments are divided under four categories, viz,

Torkaruvi — percussion instruments
Tulaikkaruvi — pipe or wind instruments
Narappukkaruvi — stringed instruments
Kañcakkaruvi — bell-metal instruments.

As regards the musical instruments of Tamil nadu muḻavu, yāl, vankiam or flute were given high esteem in the life of ancient people.

Musical instruments were indispensable accompainiments in vocal recitals, dance performances and dramatic theatres.

Karaikkāl ammaiyār Mūtta Tiruppatikam gives a list of 13 musical instruments played at the Tiruvalankātu temple; the verse comes as follows :

'சச்சரி கொக்கரை தக்கை யொடு
தகுணிதம் தந்துபி தாளம் வீணை
மத்தளம் கரடிகை வன்கை மென்தோல்
தமருடம் குடமுழா மொந்தை வாசித்து
அத்தனை விரைவினோ டாடும் எங்கள்
அப்பனிடம் திரு ஆலங் காடே'

From the commentators on Cilappatikaram it is under stood that there were innumerable kinds of instruments even during the post-Caṅkam period.

Bakti movement during the Pallava period gave a fillip for the growth and development of classical music. There was a renaissance in the field of classical music and as a result there was an out pouring of Saivite and Vaishnavite hymns of religious saints. Those humns were set in paṇs and sung with the accompaniment of musical instruments like yāl. Sangeetha ratnakaram (13th century) of Sarangadeva speaks of Tēvara vartani and a number of paṇs used in the Tēvaram. From the 14th century onwards when the Vijayanagar rulers held sway over the Tamilnadu Telugu songs were patronised and Tamil songs receded to the background.

Arunagirinathar (15th century) enriched Tamil music to a great extent by giving a new musical form for his *'Tiruppukal'* based on *'cantam'*; he had made use of many rhythmic patterns.

Arunachalakavi (18th century) wrote his famous *Rama-naṭaka-k-kīrtanai'* adopting the kīrtana form with the features-pallavi, anupallavi and caranam. Many of the songs are popular in *'Katākālaṭcēpam'* (religions musical discourse) of scholarly musicians.

'The Kirṭanas and patams of Muthu-tanṭavar and Mari-muttāp-Pillai have been popular both in the musical and dance traditions. Many Tamil songs of Āṇai Aiyya have gained currency.

Kopalakrishna Pārati (19th century) has earned immortal fame by his 'Nantaṉār Cariṭṭiram' based on the story of Tirunāḷai-p-pōvār in Periya Puranam. He has made use of classical rakams as well as folk melodies. This work became extremely popular even in his time' says Prof. S. Ramanathan (Cultural Heritage of the Tamils- P. 67).

Music in this present century

Nathasvaram is considered an auspicious musical instrument in the marriage and other functions of Tamils. This instrument is indegenous found during the period of Nayaks; it is identified with *neṭu* vaṅkiyam of ancient period; but it is said that it has some modifications.

Generally Nathasvaram is played with the accompaniment of 'Tavil' and 'ottu'. But nowadays some musicians play on Nathasvaram with the accompaniment of violin and mirutaṅkam; Tavil is played as an accompaniment of violin. These are some new musical devices employed by expert musicians to entertain the audience.

Though clarionet and violin are foreign musical instruments they have been given important place in the field of classical music. They have been recognized as fine musical instruments suited to the melody and technicalities of music. They are given due place along with Nathasvaram in the precincts of great temples of Tamilnadu.

As regards musical compositions Cennikkulam Annamalai Reddiar has earned undying fame by his Kāvati-c-Cintu. Its music is so captivating that renowned musicians like Ariyakkuti Ramanuja Aiyengar, Musiri Subramania Aiyer, Madurai Somasundaram made it a point to include one or two Kāvati-c-cintus in their concerts.

Koteesvara aiyer, the grandson of Kavi Kuñsara Bharatiar has composed in all the 72 *mēlakartas* some of which are strikingly original. Papanasa Sivan and Yogi Suddhananta

Bharatiar are noted for their service to bring the classical music to the common man by their popular songs.

The temples of Tamilnadu are encouraging the vocal and instrumental music to a great extent.

It is said that there is no difference between Karnātic music and the Tamil traditional music. With the efforts of Paṇṇārāiccikkuḻu (பண்ணாராய்ச்சிக்குழு) organised by Tamil icai-c-Caṅkam at Madras, many ancient Tamil paṇs are identified with the present Karnātic music. It should be noted here that Dr. Rajah Sir Annamalai Chettiar was responsible to start the Tamil icai movement ; and Tamil icai-c-Caṅkam was founded by him. His illustrious son Dr. Rajah Sir M. A. Muthiah Chettiar was gracious to give continued patronage to the Tamil icai movement ; and he founded another Tamil icai-c-Caṅkam in the temple city of Madurai.

Dance

Dance, its nature and significance

Dance is the rhythmic expression of moods, sentiments through bodily movements and gestures. This art in Tamil nadu is as old as her culture. In the ancient Tamil land dancing was considered not only a social entertainment or pastime but also an indispensable form of all aspects of life of the differenct sections of the people. Many occasions like marriage, victory in battle fields and festivals offered opportunity for dancing in which either men or women or supernatural elements (gods, ghosts etc.) took part.

Music was an inevitable feature of dance performances. The percussion instruments like muḻavu, and the cymbals held a significant place over all other instruments, because of the *'tāla'* or time measure inevitable for dance.

As a form of entertainment the art of dancing appeals very much to the eyes ; therefore it is natural that the dancers were expected to be young and beautiful. It is said that the celebrated *Madhavi*, the dancing girl was young and attractive ;

she was proficient in the performance of the famous Eleven dances (பதினோராடல்கள்).

There were many kinds of dances like *kuravai-k-kūttu Valli-k-kūttu, Tunagkai-k-kūttu, Āriya-k-kūttu,* and *Veriyāttu* etc., in folk forms in the ancient Tamilnadu.

It is believed that the gods like Siva, Parvati, Triumal and Vinayaka had performed dances.

Though the Tamil treatises on dance are not available at present, many classical dance-forms and techniques enumerated in *Natyasastra* seem to have been in vogue in the temples of Tamil nadu. The Kudumiyamalai inscriptions refer to the different modes of dance expressed in the Natyasastra. They also speak of certain *Kramas* and *Jatis* mentioned in that treatise. Especially in the Nataraja temple of Chidambaram, in the Kailasanatha temple of Kanchipuram and in the Thyagaraja temple of Triuvarur there are many sculptures representing various features of classical dance.

Royal patronage was given to the dancing girls. It is known from the inscriptions that *Raja Raja I* had made necessary arragements to invite and give accommadation to the dancing girls 'தளிச்சேரிப் பெண்டுகள்' for the purpose of dance in the great temple of Thanjavur.

Dance in the present century

During the last few centuries there has been a moral degeneration amidst the dancing girls, and they went into the exclusive possessions of the wealthy. Consequently there arose a set-back in the art of dancing. In the first half of this century a new movement was started to improve the morale of the community which had devoted itself to the art of dance; an artistic surge has brought the art of Bharatanatyam into favour once again. Now respectable women look upon the dance with favour, while some of them like Thirumathi Rukmani Arundale and Dr. Padmasubramaniam have even taken to the practice of this divine art and achieved superbsuccess

in it. It is to be noted here that Rukmani Arundale has established a great centre called *Kalakshetra* at Adyar to train young girls in this art. Following Rukmani Arundale some proficient exponents of dance like Padma subramaniam have started the training centres for dance. Dance has become an academic subject with all due honours. Great temples and cultural societies are encouraging the dance performances for the survival and elevation of the art.

Drama

Drama and its significance

Drama is one of the finest expressions of Tamilian culture; it is a dynamic act. Dr. A. N. Perumal says, 'Drama is an amalgamation of a few fine arts to form an aesthetic combination specially designed by the dramatist to be represented by the actors who are to impersonate the characters of the story. It is to be developed through the physical and verbal expressions of the persons participating in it. The actors have to follow the instructions of the play-wright who keeps himself out of sight from the scene of action and narration of matter. The actions and dialogues are to be suitably distributed among the characters as required by the situations (Tamil Drama-Dr. A. N. Perumal, p. 1).

The purpose of a drama can be attained only when the participant of a drama merges his 'self' into the art into what he is creating for the moment. A real drama is indended to impress the audience with the sentiments or feelings (ரசம்-சுவை) suited to the occasion so as to derive the aesthetic experience that is required for both the characters and the audience.

In the ancient Tamilnadu, the word for 'Drama' was 'Kūttu' (கூத்து); it was used in a broader sense signifying both dance and drama. *Nātakam* was interpreted as a dance based on story (கதை தழுவிவருங்கூத்து) according to the commentary of Aṭiyārkkunallār to Cilappatikāram.

Though a full dramatic play with five divisions - *mukam* (முகம்), *pirathimukam* (பிரதிமுகம்), *karuppam* (கருப்பம்), *viḷaivu* (விளைவு), *tuyttal* (துய்த்தல்), as explained by the

Cilappatikāram commentator is not available at present, the aspects of drama can be found in Tirukkural, Kalittokai and Paripātal.

Though the treatises on dramaturgy such as Ceyiṟṟyam, Mativānar Nātaka-t-tamil nūl etc. are not available to us there might have been dramas to be enacted by the people much anterior to Aṭiyarkkunallār.

It is said that fine arts like music, dance and drama were not encouraged by the Jain monks since those arts were considered the veritable instruments to kindle lust in the minds of the society.

Growth and development of Dramas

Gradually dramas were written in such a developed form as to attract different strata of society. Drama in its fully developed form is almost real and natural, compared to what is actually going on in the society.

It is believed the Pallava King Mahendravarman had written sarcastic Sanskrit plays *'Matta vilasam'* and *Pakavatajjuku Arikatam* to be staged before the people.

During the Chola period, there was a play called 'Raja Raja Vijayam' written in praise of the achievements of Raja Raja I. It is said that 'Puliyūr Nātakam' was staged in the temple of Tiruppapuliyur during the festival times.

As regards the Dramatic literature in verse form Kuṟṟlāk-kuṟavanci, Mukkūtaṟpaḷḷu and Manōn maniyam may be illustrated in point.

In the eighties and nineties of the 19th century a drama in the Tamil Nadu was something to be looked down upon not only for its lack of any intrinsic value but for the lack of character, respectability and purity in those who were connected with it Generally no parent in any decent family would willing by allow a member of his family to take part in a drama or to see it. The performance was to take place

on a 'Kalattumēṭu' the outskirts of a village. The stage was generally raised a few inches above the ground level which served as the auditorium. There was no proper lighting arrangement. Everybody was expected to squat in a crowd and endure discomfot as best as he could. The drama invariable took place at night times, beginning at about 9-00 p.m. after the day's work and continuing till dawn. Village festivals encouraged this art to a great extent.

In the 20th century there were some dramatic troupes and companies to conduct dramas of attractive themes of religious social and moral interest; there were improved colourful screens and techniques.

P. Sambanda mudaliar, Sangaradoss Swamigal were renowed playwrights who had written many kinds of plays catering to the popular tastes. It was their life mission the 'Tamil Drama' energe as a respectable art. It is said that P. Sambanda mudaliar had produced 94 plays to his credit. Sankaradoss Swamigal had written 40 plays, and composed many popular songs for the stage. T. P. Krishnaswami Pavalar was also a famous dramatist who had kindled the patriotic spirit through his dramas.

The services rendered by Dr. C. N. Annadurai, Tiruvaru. Thangaraju, Dr. M. Karunanidhi, Dr. Aru. Ramanathan and Dr. Arur Alagappan to the revival of Tamil Drama are noteworty.

Kannaiah, Nawab Rajamanickam, and T. K. Shanmukam brothers organised troupes or companies to enrich the status of Tamil drama and dramatists. With independance, however, drama experienced a signal revival.

Now there are some dramatic troupes organised by Messers Manohar, Balachandar, Cho. Ramaswami and Heran Ramaswami. They are doing their best to improve the standard of Tamil drama, with a mission to entertain and educate the masses.

The film - show has become a menace to the dramatic art. Being new, and having several advantages over the stage in producing effects, the 'Silver screen' easily began discourage

the stage not only by capturing the support and loyalty, of the audience, but also by securing the services of the artists and actors themselves.

"A period of acute economic distress synchronised with this development and stood in the way of profitable production of the stage drama. The rise in prices, taxation by the state and the high cost of living all helped to kill dramatic activity and by 1940 its decline in the south was complete" says V. C. Gopalaratnam (Indian Drama-The Publications Division, Delhi—P. 112). Though the state Government of Tamilnadu has exempted the Dramatic theatre from entertainment tax, the Dramatic stage is still struggling for its existence. However the educational institution of Tamilnadu are interested in encouraging the students to come forward to exhibit their histrionic talents. It is a welcome feature that the subject on 'Dramatic science' is also taught in the class rooms of some educational institutions.

Craft

In ancient days the training in most of the arts and raftsc was given to the trainees under 'Gurukula system. In the Gurukulavasam the trainees or students were expected to live with their teacher so that they could learn the real skill and technicalities of the concerned art or craft. In the present set-up of democray the Gurukula system is not very much encouraged, and as a result there are educational or training centres tor arts and crafts in many places of Tamilnadu.

It should be noted that in every craft or industry there is much need of up to date methods and better marketing facilities and elimination of brothers or middlemen if the industries are to attain real improvement and prosperity; this is possible only by organising Craft-guild.

The art of blacksmith

Blacksmiths play a most vital role in the energence of many crafts such as carpentry, weaving, goldsmithy, toy-making

etc. In brief, most of the arts and crafts have to rely on blacksmith for the instruments, tools and implements for their operation. So, it can be said that the art of blacksmith is the mainspring of all arts and crafts in catering to the basic need.

In ancient days the iron was useful not only for the manufacture of agricultural implements, house-hold articles and other instruments required for many crafts, but also for weapons useful in the battle fields.

In modern days though there are a large number of blacks miths catering to the requirements of the people, there are workshops and industrial centres or estates to turn out things on a large scale. The vocational training on the art of blacksmith is given under the educational curriculum of mechanical engineering section in the technical institutes; by this, necessary vocational guidance is given to the youngsters irrespective of their castes.

Carpentry

Next to the art of blacksmith the carpentry or woodwork is a fundamental craft catering to the needs of the people.

The carpenters were well aware of the fact that the durability, the strength and the nature of wood required and suited for their craft. They knew very well what were the important parts expected to be very strong in their making of things and how to get the maximum benefits out of their products. So, the talents of an experienced carpenter basically defend on the availability of good and strong wood from the fertile forest. During the Caṅkam period, the carpenters led a life sufficiently contented.

The art of wood-carving is an improved stage of craf over the ordinary wood work; it requires much skill, knowledge of Silpa-sastra and experience as regards the construction of 'ratās' (தேர்கள்) and artistic doorways etc.,

The art of wood-work has come under the vocational training of educational institutions of school and college-level.

The art of gold smith and silver smith

In the ancient Tamil nadu, gold and silver were precious metals mostly used for making jewels. But before the time of such use, the Tamils had decorated themselves with attractive leaves, creepers, flowers etc., as ornaments. In the course of evolution they thought that it would be preferable to have things of permanent value instead of such things of temporary value. Accordingly they made use of conch shells, gold and silver etc., for jewellery. Though the metal jewels were used fer decoration, the people could not completely forget the heritage of Nature ornaments such as flowers and leaves; and hence the names of some newly made metal ornaments were called after the names of leaves or creepers or flowers, viz. *aracilai* (அரசிலை), *tiruku-p-pu* (திருகுப்பூ), *tālikkoṭi* (தாலிக்கொடி) etc.,

There are many references to the gold ornaments (mēkalai, matāni, cilampu, Kinkiṇi, valai, katakam, and tāli etc.) which had unique value of durability and brightness.

Ponnarimālai was given as a gift to the musicians and dancers; it was made with lotus like gold flowers and silver thread. Dr. U. V. Swaminatha aiyer is of opinion that the Ponnarimālai was a head-ornament (Introduction in his Kuntokai edition).

The gold and silver wares used by the wealtly people even during the Caṅkam period.

There is a special attraction for the people to manufacture gold jewels studded with precious gems like diamond, pearl, emearld, and ruby etc. The jewels made in Tamilnadu were in great demand in foreign countries. Even now there is a provision for the export of artistic jewels to foreign countries.

In the medieval and modern periods the gold jewels, the gold and siver-wares ware given as gifts to the temples for the

purposes of decoration, abishekam and aradhanai. Marriage gifts are at present in the form of gold rings and silver plates.

The winners and runners-up in the sports pavilian are given gold medals, silver trophies and shields.

Other metal works

There were utensils made of copper and brass for the daily use of the people. Even during ancient times the craftsmen were proyficient in the copper-lathe work so as to produce fine pieces of utensils; the following lines of Nṟṟiṇai (153).

'மண்திணி ஞாலம் விளங்கக் கம்மியர்
செம்பு சொரி பானையின் மின்னி' (2-3)

may be given as as illustration. From the line, செம்புபுனைந் தியற்றிய சேணெடும் புரிசை' it can be understood that the copper was used extensively for the construction of fortification i. e. rampart.

Other kinds of metal work are also available in Tamilnadu: as for instance the Thanjavur plate the earliest of which was prabably 700-800 years old. The metal work is nice and it is flourishing even today; it has a charm of its own.

Weaving

Weaving — its significance and kinds

Next to food, the fundamental need for a decent man is clothing. Dress as shown by an thropologists served the purpose of decoration and later on developed to be looked as something necessary for hiding human nakedness.

As regards the Tamilnadu, the art of weaving was not only a major craft but also an indispensable cottage industry in which almost all the members of a weaver's family took part as a matter of course. The technique of weaving was consciously and gradually developed in the ancient days both by men and women. There are references to fine and transperent clothes just like the sloughs of serpents, the outer tissue

of bamboo and the vapour and smoke ('பாம்புரியன்ன ....காம்பின் கழைபடு சொலியி னிழையணி வாரா, ஒண்பூங் கலிங்கம்—புறநா: 383; ஆவியன்ன அவிர்நூற் கலிங்கம் - பெரும் பாண் - 469; புகை விரிந் தன்ன பொங்குதுகில் - புறநா. 398)

The terms *'aṟuvai'* (அறுவை), *'maṭi'* (மடி), were used to signify the cloth, *'paṭām'* (படாம்), *'utukkai'* (உடுக்கை), *'uṭai'* (உடை), *'tānai'* (தானை), *'āṭai'* (ஆடை), *'puṭṭakam'* (புட்டகம்), and *'kaccai'* (கச்சை), etc., refer to the clothes that are useful to be put on. *'citār'* (சிதார்), 'citarvai' refer to the ragged cloths. *'Nūlakkalinkam'* (நூலாக் கலிங்கம்) signifies the silk clothes since the pure silk threads are not hand spun.

In Puṟanāṉūṟu (392) there is a reference to *'Venkoṭai'* ('மதியேர் வெண்குடை யதியர் கோமான்') the royal victorious umbrella, one of the most important paraphernalia of a king; this is identified with *'Venkoṟṟakkotai'* (வெண்கொற்றக்குடை) found in the later works.

Puṟanāṉūṟu (362) speaks of the victorious flag as 'Vicaya-venkōṭi' (விசய வெண் கொடி).

The art of embroidery is not unknown to the ancient Tamils. The costly cloths presented to the artistes by munificent patrons were noted for floral designs (பொருந. 82.; மதுரைக். 433). The floral designs might have been made of both painting and embroidery.

The gold-laced clothes (பொன்னாடை) were also in use by the ancient Tamils.

Dresses were worn by different strata of society according to their tastes, status and situations.

Weaving in the modern period

Though the weaving mills are a threat to the hand looms, the hand-loom industry as regards the weaving of silk cloth is not very much affected. Kanchipuram and Arani silk sarees, Tirubhuvam and Ammachattiram silk sarees are famous and there is a great demand for them in other countries also.

Apart from the artistic dress-cloth, carpets woven in the famous places like Bhavani, Chennimalai etc., are in great demand in the country and outside.

Sir George Birdwood says, "The simplicity and felicity in putting the right amount of colour, the exact force of a pattern suited to the position given them are wonderful and quite unapproachable in any European carpets of any time or country" ('The Tamils and their culture' — P.163).

Pottery

The art of pottery is one of the village crafts developed for the common good of the people. Generally a potter supplies the earthern wares indispensable to all sections of the society.

The ancient potters could have comprehensive use of potter's wheel (திகிரி) with their developed technique. Even big vessels like *tāḻi* (தாழி-urn) might have been made with the aid of potter's wheel.

Tacumbu (தசும்பு), *Kuḻici* (குழிசி), *maṇṭai* (மண்டை), *'Kalam'* (கலம்), *cāṭi* (சாடி), *Kannal* (கன்னல்) are different kinds of pot used during the Caṅkam period.

'Akal' (அகல்) was used as a lamp for lighting purpose. The pottery vessels with traditional painting are in use for a very long time during the marriage celebrations.

In modern times 'urns' are not in use. Wealthy people are not using the earthern wares though it is said that cooking in the earthern wares is good to health.

Festivals like *'Navarāttiri'* give impetus to the making of painted pottery dolls of various forms such as divine murtams and avatrs of gods and goddesses etc.

With the extensive of metal wares the art of pottery has been much affected.

Olai work and Coir making

In ancient days, the baskets for carrying things, the mats for sleeping, the winnows for winnowing the grains, the umbrellas for protecting against the rains and Sun-heat were made with ōlai like palm leaf.

There are references to different kinds of baskets such as *'vathi'* (வட்டி), *'puṭṭil'* (புட்டில்), *'kuṭai'* (குடை) etc.

Though the baskets and winnows are cheep and ordinary things they are also the art-products made under the complete control of technical processes by the basket makers.

In mat-making, the technique of weaving, i.e, weaving of warp and weft should have been employed in requlariy arranged loops. Any lack of automatic control over his craft will bring about irregularities of surface pattern. Mats manufactured by *'koṟai'* (sedges-cyperus) are in use in the Tamilnadu for a very long time. Pattamaṭai and Kolliṭam are very famous for making 'Korai-p-pai' (கோரைப்பாய்). The mats are in high demand all over the Tamilnadu.

The ancient Tamils felt the need of coirs or ropes for fastening things even during the Caṅkam period; *'tāmpu'* (தாம்பு) or coir was used for fastening or tying the livestock with the pegs. Before the use of iron-chains the coirs were used for fastening the elephants with the pegs. Big coirs were used to drag the temple-cars during the festival times.

'Uṟi' (உறி), a net work of rope for placing pots is in use for a long time.

Encouragemene is given by the state government to the coir indnstry to produce coir, mattress (with coconut fibre), foot-board like mat etc.

Pith work (நெட்டி வேலை) is also a cottage industry encouraged by the State government. Two excellent art-pieces of pith work are found in the Madras museum. One of them

is a wonderful representation of the Brihadeesvara temple at Thanjavur ; it is said that it was done at Tiruchy.

Leather work, lapidary (the art of cutting precious stones) etc., come under the category of 'craft' or cottage industry ; they are also flourishing well in the Tamilnadu. However the arts and crafts in the Tamilnadu help us to live a life of happiness in preserving the sweetness of our souls.

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Vocational aspects of Folk-performing Arts in Tamil Nadu

Dr. T. RAMASAMY

"Tēvarāṭam and kokēlikaṭṭai āṭṭam are the two arts rarely practised as professional arts. They are performed for the awards not for the monetary benefits. These two arts can be said as professional or vocational arts because the awards are the encouragement for the performing of the arts."

Arts are of two types. The first one is 'art of art's sake; and the other one is 'art for life's sake'. In the first kind, art can be enjoyed only as an art (i. e.,) in an aesthetic sense. It does not reveal anything and the beauty of the art can only be appreciated. But the art that is life's sake makes us understand to appreciate the art continously. The continous appreciation brings into focus the inner beauty of the art. In addition it reveals the truth of human life. So the art that focuses the truth can be termed as education of life. The art which has ihe life - oriented basis makes in itself vocational arts. Vocation is the flesh and blood of life. Life devoid of vocation is like the withered leaves strewn in the dust. So, the inclusion of vocational arts is necessary in the type 'art for life's sake'.

Mostly vocational arts are traditional arts. Arts have been practised vocationally for the livelihood like a family doing a vocation for one's livelihood, in succession. So the vocational arts can be termed as traditional arts.

These vocational based traditional arts can, be classified into two ways. (1) Crafts (2) Fine arts. Fine arts are further

classified into two types. One among them is Stage Arts or performing Arts,

These traditional arts are of people's art. It is performed in the Villages. So traditional arts can be termed as Folk arts. Folk arts are performed by the people knowingly or unknowingly by successive generations.

Traditional arts are not classical arts. Traditional arts have been made anew (classical) by modification. It has been changed or modified in various times and periods by artists. These kind of modificaions turn it into classical arts. But the folk arts have a roughnes of their own. The changes or modi fications done by the artists steals away the roughness and makes it classic.

The art 'Bharatanatyam' can be chosen as an example of this kind. It has been performed differently in the previous years. It is not known as Bharatanatyam but as 'Satir,' art of the suppressed-caste. This art has been renuvated by four brothers of Tanjore. They are Ponnaiah, Sinnaiah, Sivanandam and Vadivelu (Raman, K. L., 1984 : 98). It has been further enhanced by the artists like Mr. E. Krishna Iyer and Mrs. Rukmini Arundale. The term 'Bharatam' itself has been coined by Mrs. Rukmini Arundale. The traditional art, 'Bharatam' is known as 'Satir' before fifty years. This art is nothing but a folk art. If it has been still known as 'Satir', it will be termed as folk arts or of common people's art. To change the folk aspect, the people modified or changed its name.

'Satir' is an advertising art. 'Satir' has been performed by the 'Devadasis' to attract the men towards them. Devadasis danced (performed), this 'satir' in temples, to attract the people who gathered in a festive occasion, but not in praise of God.

Kūttapirāṉ performed the dance. This is the faith of the people. The Lord Nataraja must be of the caste or creed of the 'satir' artists. He must have been a (Naṭṭuvaṉar) guru who taught the art 'satir', for the people. He must have

lived in the midst of 'devadasis' and would heve died. Then Dravidians pay homage to their forefathers and they treat them as their gods. So, the art ,satir' which is now known as Bharatanatyam is a folk art and also a traditional one.

The 'performing Art' which of vocational type of folk-art is of many types. It is classified as arts through narrative songs, arts through dances (Pāṭṭukkalai) and arts through songs and dances (āṭṭakkalai). This is has been called as 'Āṭṭapāṭṭakkalai and Kūttukkalai by the people.

(1) *Arts through Narrative Songes* (Pāṭṭukkalai)

In this type of arts, songs are sung not precariously but having a basis (i. e.,) telling a story. It is a technique of performing arts. It can be said as 'Balled which is of two types known Villuppāṭṭu (Bow-song) and 'Uṭukkaṭi pāṭṭu.

The aim of the art is to sung the story. The stors has been sung, through the medium 'Villuppatu' and then 'Uṭukkaṭip-pāṭṭu'. These 'bow-song' and Uṭukkaṭi songs has now been made as vocational arts. They are sung or performed as an entertainment for the people in the festival occasion of the temples (Sivasankaran pillai, 14.1.86). The artists who sing the songs are not given any remuneration of any kind. They are sung as *ceremonial* (நேர்த்திக்கடன்) songs. People find aesthetic sense in the arts performed for Nērttikkaṭaṉ. The people who could not sung and who wanted to worship the god searched for the artists and presented gift or money for their onward journey towards the festival held in temples. In succession, it turn into wages and the art has been in vogue as vocation. The bow-song sung by kurathi's as a vocation, now it became a vocational art for other castes such as Red-diyar, Nayakkar, Pillai in Ettayapuram and Vilatikulam villages in Tiruneveli District.

It is a trадitition prevailed that women would sing bow-song and men would sing 'Uṭukkaṭi-song'. This traditional set up has been broken by the artist *Pichaikkutti* of Sattur. Now the troupe Sivakulam Thankaiah (Sivasankaran Pillai,

14-1-86) and Veerapatti Shanmugam sing bow-song. Mostly, bow-songs are sung by people who are in the teaching profession. So it is not followed traditionally but sung for the additional income rendered by it. Thus the bow-song has been made a vocational art. Wholly, women sing the bow-song in a traditional vocational style. Ladies are the artists who sing the bow-song comprise of 90% in the Vilatikulam area.

M. S. Rajalakshmi has acted in the play 'Harichandran', which is enated by the folk-drama troupe. So we are able to know or understand the impact of dramatical elements in her bow-songs (M. S. Rajalakshmi 6-3-86).

Bow-songs are sung in the temples of temples of village deities situated in Kanyakumari and Nellai Districts. The old ballad of Kāttavarāyaṉ and Suḍalaimāḍaṉ are replaced nowdays by the songs sung in praise of Lord Ayyappa.

Uṭukkaṭi song are sung as 'Kathakalatchepam, in a vocational manner in the temple festivals. Mostly men take part in this kind of art.

The Art of Dance (Āṭṭakkalai)

Kaṉiyāṉ Āṭṭam, Kāvaṭi Āṭṭam, Poikkālkutirai Āṭṭam, Marakkāṭṭam and Dēvarāṭṭam are the types of dances performed by the people in the villages

Two types of methods are followed in the above said folk dances. One is, Dances are accompained by songs, but the dances do not coincide with songs. In certain types, dances are performed without the songs. Kāvaṭiāṭṭam can be cited as an example of this type of folk-dance.

In Kāvaṭiāṭṭam, dance is accompained by the songs only in temples. Song are sung in praise of the Lord Muruga. A literary (Poetical) piece has been found out by Annamali Reddiar in praise of the Lord Muruga. It has been sung in the dance, Kāvaṭiāṭṭam. It is known as *kāvaṭicintu*.

The Lord Muruga who is in Palani, is in the form of a Paṇḍāram or Āṇḍi (begger). The folk-dance kāvaṭiāṭṭam has been a traditional one for him. After his death, devotees worship him by dancing this type of folk-dance. It in not a vocational type but it is of a ceremonial type.

The folk-dance (Kāvaṭṭiāṭṭam) performed as a profession by the people in the villages. The Late Om Periasamy had a troupe which performs Kāvatiāṭṭam as a profession in Madurai (P. Murugan, 25-2-86). Special police force at Avadi performs this as a profession or vocation because they earn money by their performance.

The next folk-dance, karakāṭṭam, is danced by the unaccompanyment of song. It is danced according to Naiyāṇḍimeḷams. It is also performed as an worship of the deties. Folk-dance artists and devotees do the performance as a profession or vocation in the festival occasion in the temple. Men and Women perform, Karakāṭṭam. The folk-dance Karakāṭṭam is done by the artists who show their skill in kāvaṭiāṭṭam and poikkālkutiraiāṭṭam (Dummy Horse). Karakāṭṭam, the dance is performed well by Bangalore Sundara Moorthy and Madurai Ramaiah as a vocation.

The dance 'poikkālkutirai āṭṭam' have no connection with the worship of God. The dance is performed in temple festivals like the other folk-dance. This type of folk-dance is best appreciated in Tanjore area. Mr. Perumal Vathiyar who performs the folk-dance in Madras belongs to the native of Tanjore.

Dummy horse dance is now in vogue as a professional art throughout Tamilnadu. Dance is proceeded with Naiyāṇḍimēḷam instead of the accompaniment of songs.

Kokēlikaṭṭaiāṭṭam

The dance has been performed by uniting the two legs with strings to a high-stalk. This is know as kokēlikaṭṭaiāṭṭam We can presume that this has been the folk-dance mentioned as 'Marakkāl āṭṭam' in Cilappatikāram. In the present condition, it can be termed as 'Marakkāḷāṭṭam'. This folk dance has been easily practised by the people of Valajapet.

The artists will throw their sideways to balance themselves and dance with the help of the bamboo stick tied to their legs, which is of three feet high. It will make us wonder. This has been practised as a professional folk-dance.

Tēvarāṭṭam

This folk-dance is practised in the marriage-functions and temple festivals by the people of alien languages throughout Tamilnadu. They belong to the caste Kampalattu Naiyakkar and Anuppak Gounder. It is known as Tēvarāṭṭam. It is performed, like the dance of Oyil Kummi. It is danced to the tune of Urmi, a kind of drum. Songs are not sung with the dance. If songs are sung, it is known as Sēvaiāṭṭam. This sēvaiaṭṭam finds its place in Theni and Vilatikulam in Madurai and Tirunelveli districts respectively. It has not been done as a professional art, but if the people of other villages were in need of it, they will perform it for meney.

Art comprises of dance and song (Āṭṭapāṭṭakkalai)

The art Kaṉiyāṉ kūttu has been performed in Isakki Amman and Suḍalai Māḍan temples in Tirunelveli and Kanyakumari districts, in their festive seasons. But the artists reside only in Nanguneri, Kallidaikurichi with are Tirunelveli district. It has been performed professionally by the low-caste people known as Kaṉiyān. It is their traditional art.

This folk-dance has been made a compulsory ritual performed in the Sudalaimadan temples. There is no festival in Sudalaimadan temples without Kaṉiyāṉ kūttu. Kaṉiyāṉ kūttu is usually called as 'Kaṉiyāṉ āṭṭam' in Kanyakumari district. It has been named on the basis of the drum that is beaten. Men will dance according to the beating (sound) of the drums, wearing womanly dresses. So it has been named as 'Makuṭāṭṭam'. We cannot find any facital expressions or gesture like the Bharatanatyam. But the audience who sees from the distance, think that there must be gesture in the dance. There is no difference is found when one hear the bow-song and Kaṉiyān kūttu in the tapes.

The beads that are tied to the string in the bow make hilarious sound in bow-songs whereas in Kaṉiyān kūttu,

the beads that are tied to their legs echoe sounds when danced by men. Like the sounding of the beating drum, the pot makes noise in the bow-songs. So, in hearing, we cannot trace any difference in the songs.

Kaṉiyāṉ kūttu is a traditional art performed even now by low-castes. It has been performed professionally even from the origin of the art. Kalaimāmaṇi Ramasubbu of Kallidaikurichi and Nanguneri Vanamamalai troupe are the famous artists who are the leading artists of this form.

This folk-dance has the temple as its basis. This resembles the dance Sākkaiyar kūttu performed in Kerala (Rami, (2) 1982 : 20).

Kūttukkalai (Art of Dance-Drama)

Kaṉiyān kūttu, Sākkaikūttu, Pavaikūttu, terukkūttu dance-drama performed in streets are all types of dance-drama. Dance-drama is performed in a stage with the accompaniment of song, dance, facial expressions or gesture.

Kaṉiyāṉ kūttu, and Sākkaiyar kūttu are already explained.

Pāvaikkuttu (Puppet-show)

Pappet-show is of two types. One is wooden puppet and the other is leather puppet. Wooden puppet-show is manipulared in front of a screen whereas the leather puppet shadow is shown in the screen with the help of a light. This is the main difference between the two types.

These two types are of traditional arts. Wooden puppet-show is performed by the people who are of high-casts and it has been practiced by the brahmins in Tanjore. Wooden puppet-show is manipulated by low-casts people of Salem area. This type is performed by a family in successive generations (Thulasi Ramasamy, Typed Script : 1985 : 22). Wooden puppet-show is in vogue for the benefit of an additihnal income in Tanjore district where as it is performed professionally in Salem district. So nowadays wooden puppet-show is performed as vocational art.

Leather puppet-show is practised by the Ranji family belonging to Maharashtra. It has been performed by the people who wander from place to place, for their livelihood. It has been vigorously practised in places like Salem and Madurai. The artists are residing in the places already mentioned.

Puppet-show is performed in Tamil by a caste known as Chetti' in Kerala. The story of Kambaramayana is sung in Tamil but it has been explained in Tamil as well as in Malayalam (Ramy,(1) 1982 : 41).

Leather puppet-show exhibited in Madras belongs to the Andhra type. It has been practised by the artists of Andhra Pradesh. After the death of Ramanamoorthi, the group is exhibiting for additional income. So, leather puppet-show also belongs to the vocational art.

Terukkūttu

Teṟukkūttu is the old form of stage art still in vogue in Tamilnadu. Now it has been practised in South Arcot, North Arcot. Chengalpattu and Salem districts in contrast with the performance of the entire Tamilnadu then.

Terukkūttu is the forerunner for the dance-drama practised in Southern India. (Ramy(2) 1982 : 16) It is called *'Bayalāṭṭam'* in Karnataka and 'Vēdhi Nāṭka' in Andhra Pradesh. It means the drama is performed in an open-air theatre.

It has not been practised by a creed or a family. It has been performed only by those who are interested in the art. But, Purisai Kannappattambiran troupe practises this art for three successive generations. It is not a family art and but Tambiran troupe practises as family art because of their taste for the art. People of various castes belong to the troup of Tambiran. Kadalur Velayuthapattar is of the same type. It is not a family art for the Velayuthapattar's troupe. They practise it beacause of their interest. This has been practised even in Salem. This art has been practised easily by the people who has a flavour for the art. So it has been a family as well as a practical art.

In the festival season like Ponal, people perform this art by their mere practise of art. They do not expect monetary benefit out of it. But the above said troupe practises it for monetary benefits. They are practising it as a profession.

Significance of Vocational 'Folk-performing arts'

People cannot be disunited from the (worship of) village deities. Similar is the condition for the folk arts performed by them. The arts are united to their utmost life. It is like the arts performed in temples. They are known as arts performed in the temple. Deities worshipped in the temples are folk-deities and they are Dravidian deities (i.e.,) their ancestors. As a remembarance of their ancestors, they perform the arts practised by their ancestors in the temple festivals. So it has been named as folk-arts or temple arts.

The people in the village worship *kūttaṉ* as God of their profession because he has performed folk-dance 'Satir'. They perform the art Kāvaṭi' in memory of a man who has loved and performed the same art. They practise and worship the art. The art of music, art of dance and dance-drama found its origin in the above said manner. Then it has been changed in the form of an entertainment and has advertisement art. It is further uplifted as a professional art.

Leather puppet and Kaṇiyāṉ kūttu are the arts performed till today by the low-caste people in Tamilnadu. Because it is practised as a professional art, we can term it as the vocational art of the first grade.

Tēvarāṭṭam and Kokēlikaṭṭai āṭṭam are the two arts rarely practised as professional arts. They are performed for the awards not for the monetary benefits. These two arts can be said as professional or vocational arts because the awards are the encouragement for the performing of the arts.

The bow-song is practised mainly by women professionalists. They perform this art for their livelihood. Men who perform bow-song are the part-time professionals. Mostly the artists are teachers by profession.

Karakam, Kāvaṭi, and Dummy Horse dance are learned and practised by a single artist. The troupe of Om Periasamy

and Bangalore Sundaramoorthy can be cited as examples of this type. The three arts are of the same kind or type make easy for a single artist to practise it. It can be practised within the circle of a family. Within the family one can perform Kāvaṭi, another can perform Karagam and yet another can do dummy horse. 'Naiyaṇḍimēḷam, is very essential for these three arts. So, meagre amount can be spent if 'Naiyāṇḍimēḷam' is given permanency in the troupe. Having these ideas in mind, the artists practise these arts within themselves. Thus, it is easy to make the art as vocation.

To conclude, traditional arts are folk-arts. The first form of Bharathnatyam is *Satir* which itself is a folk-art. Kūttaṉ is the fore-runner for the art (Kūttu) and the artists. Vocational arts can be divided into four types (i. e.,) Art of Song, Art of Dance Art comprises of Dance and Music, and Dance Drama. They are divided into four types of vocational arts, in various stages.

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